<ORIGINAL>

Air Conditioning Control System

Centralized Controller AE-200A/AE-50A/EW-50A AE-200E/AE-50E/EW-50E

Instruction Book –Apportioned Electricity Billing Function–

Before using the controller, please read this Instruction Book carefully to ensure proper operation.
Retain this manual for future reference.

Contents

Safety precautions 5
1. Parts to be used 7
    1-1. Required parts 7
    1-2. Separately sold parts 7
    1-3. Commercially available parts 7
    1-4. PC requirements 8
    1-5. Version restrictions 8
2. Introduction 9
    2-1. About apportioned electricity billing function 9
    2-2. System overview 13
    2-3. Selecting the operation method 14
    2-4. Function list 15
    2-5. Models of units that support the apportioned electricity billing function 16
    2-6. System restrictions 18
    2-7. Notes on using the apportioned electricity billing function 18
3. Basic operations 20
    3-1. Specified date calculation (LAN connection) 20
    3-2. Specified date calculation (USB) 22
    3-3. Closing date calculation (automatic output) 29
    3-4. Displaying charge calculation results 34
    3-5. Printing the charge calculation results 36
    3-6. Examples of charge calculation results CSV output 38
4. Practical operations 40
    4-1. Settings for the Charge Calculation Tool 40
    4-2. Calculating the charges for 2 months ago or earlier 48
    4-3. Other setting changes and precautions 49
    4-4. Displaying energy management data 51
5. Preparation of the software (installation) 53
    5-1. Installation procedures of the Charge Calculation Tool 53
    5-2. Installation procedures of the Initial Setting Tool 55
    5-3. Setting the PC's IP address 57
    5-4. Installation procedures of .NET Framework 59
6. Initial settings 60
    6-1. General descriptions 60
    6-2. Settings on the AE-200 for billing function 63
    6-3. Settings on the Initial Setting Tool 66
    6-4. General descriptions of Initial Setting Tool 69
    6-5. Basic settings 78
    6-6. Unit settings 86
    6-7. Billing function settings 97
    6-8. Settings on the Charge Calculation Tool 111
7. Billing function trial run 112
    7-1. Flow of the billing function trial run 113
    7-2. Checking the billing function settings (check before billing function trial run) 115
    7-3. Billing function trial run checks 122
    7-4. Final checks 129
8. Data verification 130
9. Troubleshooting 145
    9-1. Troubleshooting 145
    9-2. Logging in to the Maintenance screen 151
    9-3. Replacing the AE-200 153
    9-4. Replacing the AE-50/EW-50 154
    9-5. Replacing the PI controller 156
    9-6. Other Tasks 157
Appendix 1. Using the AE-200 Charge Calculation Support Tool 159
Appendix 2. Added functions 165

Contents

Safety precautions 5
1. Parts to be used 7
  1-1. Required parts 7
  1-2. Separately sold parts 7
  1-3. Commercially available parts 7
  1-4. PC requirements 8
  1-5. Version restrictions 8
2. Introduction 9
  2-1. About apportioned electricity billing function 9
  2-2. System overview 13
  2-3. Selecting the operation method 14
  2-4. Function list 15
  2-5. Models of units that support the apportioned electricity billing function 16
  2-6. System restrictions 18
  2-7. Notes on using the apportioned electricity billing function 18
3. Basic operations 20
  3-1. Specified date calculation (LAN connection) 20
    3-1-1. Preparation of the PC 20
    3-1-2. Making the settings for the Charge Calculation Tool 20
  3-2. Specified date calculation (USB) 22
    3-2-1. Preparation of the PC 22
    3-2-2. Data acquisition using USB memory 22
    3-2-3. Making the settings for the Charge Calculation Tool 25
  3-3. Closing date calculation (automatic output) 29
    3-3-1. Preparation of the PC 29
    3-3-2. Making the settings for the Charge Calculation Tool 30
    3-3-3. Settings on the Charge Calculation Tool 31
  3-4. Displaying charge calculation results 34
    3-4-1. Systems where electric energy is metered (with-metering-device method) 34
    3-4-2. Systems where electric energy is entered manually (no-metering-device method) 35
  3-5. Printing the charge calculation results 36
    3-5-1. Systems where electric energy is metered (with-metering-device method) 36
    3-5-2. Systems where electric energy is entered manually (no-metering-device method) 37
  3-6. Examples of charge calculation results CSV output 38
    3-6-1. Systems where electric energy is metered (with-metering-device method) 38
    3-6-2. Systems where electric energy is entered manually (no-metering-device method) 39

4. Practical operations..40
4-1. Settings for the Charge Calculation Tool..40
4-1-1. Making the settings for the Charge Calculation Tool..40
4-1-2. Charge Calculation Tool settings..41
4-1-3. Saving the settings..47
4-2. Calculating the charges for 2 months ago or earlier..48
4-2-1. Periodically saving USB output to a PC..48
4-3. Other setting changes and precautions..49
4-3-1. Changing the closing date..49
4-3-2. Changing the unit price (special day, seasonal)..49
4-3-3. Changing the tenant name..49
4-3-4. Changing the tenant (energy management block) floor plan..50
4-4. Displaying energy management data..51
5. Preparation of the software (installation)..53
5-1. Installation procedures of the Charge Calculation Tool..53
5-2. Installation procedures of the Initial Setting Tool..55
5-3. Setting the PC's IP address..57
5-3-1. For Windows 8.1..57
5-3-2. For Windows 10 or Windows 11..58
5-4. Installation procedures of .NET Framework..59
6. Initial settings..60
6-1. General descriptions..60
6-1-1. Flow of the initial settings and billing function trial run..60
6-1-2. Required settings to use an apportioned electricity billing function..61
6-2. Settings on the AE-200 for billing function..63
6-2-1. Settings on the AE-200..63
6-2-2. AE-200 unit settings..64
6-3. Settings on the Initial Setting Tool..66
6-3-1. Setting items..67
6-3-2. Flow of the initial settings on Initial Setting Tool..68
6-4. General descriptions of Initial Setting Tool..69
6-4-1. Starting up the Initial Setting Tool..69
6-4-2. Screen configurations and common items..70
6-4-3. List of tool bar operations..71
6-4-4. Unit address selection screen..76
6-4-5. Other settings..76
6-4-6. Preparation and flow of the Initial Setting Tool..77
6-5. Basic settings..78
6-5-1. System Configuration settings..78
6-5-2. Basic System settings..79
6-6. Unit settings..86

        6-6-1. Group settings 86
        6-6-2. Refrigerant System settings 88
        6-6-3. Interlocked LOSSNAY settings 90
        6-6-4. Block settings 91
        6-6-5. Energy management block settings 92
        6-6-6. PI controller settings 94
        6-6-7. AI controller settings 95
    6-7. Billing function settings 97
        6-7-1. Billing function settings 97
        6-7-2. Outdoor unit settings 100
        6-7-3. Indoor unit settings 101
        6-7-4. Measurement settings 103
        6-7-5. Charges settings 105
    6-8. Settings on the Charge Calculation Tool 111
7. Billing function trial run 112
    7-1. Flow of the billing function trial run 113
    7-2. Checking the billing function settings (check before billing function trial run) 115
        7-2-1. Billing-related item sheet 115
        7-2-2. Unit-related item sheet 118
        7-2-3. Entering the electric energy 121
    7-3. Billing function trial run checks 122
        7-3-1. 1st run check (after air conditioning unit continuous operation) 122
        7-3-2. 2nd run check (at least 10 days after the 1st billing function trial run) 128
        7-3-3. 3rd run check (at least 1 month after the 2nd billing function trial run) 128
    7-4. Final checks 129
        7-4-1. Final checks for the operation settings 129
        7-4-2. Final report 129
8. Data verification 130
9. Troubleshooting 145
    9-1. Troubleshooting 145
    9-2. Logging in to the Maintenance screen 151
    9-3. Replacing the AE-200 153
    9-4. Replacing the AE-50/EW-50 154
    9-5. Replacing the PI controller 156
    9-6. Other Tasks 157
Appendix 1. Using the AE-200 Charge Calculation Support Tool 159
Appendix 2. Added functions 165

Safety precautions

- ► **Observe these precautions carefully to ensure safety.**
- ► **After reading this manual, pass the manual on to the end user to retain for future reference.**
- ► **The user should keep this manual for future reference and refer to it as necessary. This manual should be made available to those who repair or relocate the units. Make sure that the manual is passed on to any future air conditioning system user.**

⚠ WARNING	**: indicates a hazardous situation which, if not avoided, could result in death or serious injury.**
⚠ CAUTION	**: indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.**
CAUTION	**: addresses practices not related to personal injury, such as product and/or property damage.**

General precautions

⚠ WARNING

Do not install the controller in areas where large amounts of oil, steam, organic solvents, or corrosive gases (such as ammonia, sulfuric compounds, or acids), or areas where acidic/alkaline solutions or special chemical sprays are used frequently. These substances may significantly reduce the performance and corrode the internal parts, resulting in electric shock, malfunction, smoke, or fire.

To reduce the risk of short circuits, current leakage, electric shock, malfunction, smoke, or fire, do not wash the controller with water or any other liquid.

To reduce the risk of electric shock, malfunction, smoke, or fire, do not touch the electrical parts, USB memory, or touch panel with wet fingers.

To reduce the risk of injury or electric shock, before spraying a chemical around the controller, stop the operation and cover the controller.

To reduce the risk of injury, keep children away while installing, inspecting, or repairing the controller.

If you notice any abnormality (e.g., burning smell), stop the operation, turn off the controller, and consult your dealer. Continuing the operation may result in electric shock, malfunction, or fire.

Properly install all required covers to keep moisture and dust out of the controller. Dust accumulation and the presence of water may result in electric shock, smoke, or fire.

⚠ CAUTION

To reduce the risk of fire or explosion, do not place flammable materials or use flammable sprays around the controller.

To reduce the risk of electric shock or malfunction, do not touch the touch panel, switches, or buttons with a sharp object.

To avoid injury from broken glass, do not apply excessive force to the glass parts.

To reduce the risk of injury, electric shock, or malfunction, avoid contact with the sharp edges of certain parts.

Consult your dealer for the proper disposal of the controller. Improper disposal will pose a risk of environmental pollution.

Precautions for relocating or repairing the unit

⚠ WARNING

The controller must be repaired or moved only by qualified personnel. Do not disassemble or modify the controller. Improper installation or repair may result in injury, electric shock, or fire.

Additional precautions

CAUTION

To avoid discoloration, do not use benzene, thinner, or chemical rag to clean the controller. When the controller is heavily soiled, wipe the controller with a well-wrung cloth that has been soaked in water with mild detergent, and then wipe off with a dry cloth.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Terms used in this manual

- “Microsoft® Windows® 8.1” is referred to as “Windows 8.1”, “Microsoft® Windows® 10” is referred to as “Windows 10”, and "Microsoft® Windows® 11" is referred to as “Windows 11”.
- “Centralized Controller AE-200A/AE-200E/TE-200A” is referred to as “AE-200”.
- “Centralized Controller AE-50A/AE-50E/TE-50A” is referred to as “AE-50”.
- “Centralized Controller EW-50A/EW-50E/TW-50A” is referred to as “EW-50”.
- “DIDO controller (PAC-YG66DCA)” is referred to as “DIDO controller”.
- “PI controller (PAC-YG60MCA)” is referred to as “PI controller”.
- “AI controller (PAC-YG63MCA)” is referred to as “AI controller”.
- “City Multi Y, HP, R2, WY, WR2, S” is referred to as “VRF”.
- “Hybrid City Multi” is referred to as “HVRF”.
- “Hydro branch controller (HBC)” and “Hydro unit” are referred to as “Pump unit”.
- “OA Processing unit (LOSSNAY with heater and humidifier)” is referred to as “OA Processing unit”.
- “Booster unit” and “Water HEX unit” are referred to as “Air To Water (PWFY) unit”.
- “Advanced HVAC CONTROLLER” is referred to as “AHC”.
- “Hot Water Heat Pump unit” is referred to as “HWHP (CAHV, CRHV, QAHV) unit”.
- “e-Series chiller unit (EAHV, EACV)” is referred to as “Chiller unit”.
- “Chiller unit of MEHITS” is referred to as “MEHT-CH&HP unit.”
- Indoor units whose model names end with “-E-OA” are referred to as “outlet air temperature control unit.”

1. Parts to be used

1-1. Required parts

No.	Item	Qty
(1)	Instruction Book (this manual)	1
(2)	“Charge” license	1 for each AE-200/AE-50/EW-50
(3)	Initial Setting Tool	1
(4)	Charge Calculation Tool	1

1-2. Separately sold parts

Use only genuine Mitsubishi Electric products for the components listed below.

Item	Model	Qty
PI controller	PAC-YG60MCA	Required number
Surface cover with USB port	PAC-YG72CWL-J	1 for each AE-200 unit

1-3. Commercially available parts

Where necessary, prepare the commercially available parts listed below.

Item		Qty	Remarks
Electricity meter		Required number	In a configuration where VRF and HVRF systems are combined, at least one electricity meter must be connected to each type of units.
Pulse detector		Required number	Pulse width: 100-300 ms Pulse weight: 0.1 kWh/pulse, 1.0 kWh/pulse recommended If the electricity meter is equipped with a pulse transmitter that complies with the pulse width and pulse weight listed above, pulse detector is not required.
For PI controller	DC power unit *1	Required number	24 VDC±10%, 5 W Ripple noise: 200 mVp-p or less
	AC power cable	As appropriate	For DC power units
	M-NET transmission cable	As appropriate	
	DC power cable	As appropriate	
	Signal wire	As appropriate	
	Sleeved ring terminal	Required number	
Communication-related	PC	1	For running Charge Calculation Tool and Initial Setting Tool
	Printer	1	For printing charge calculation results
	USB memory	1	For retrieving CSV data (apportioned results)
	LAN cable	As appropriate	
	Switching HUB	Required number	

*1 When using an external 24 VDC power unit, specify and use a product that meets the UL60950-1 or EN60950-1 safety standard. (Product with enhanced insulation for the primary/secondary withstand voltage (3 kV, 1 min.)

1-4. PC requirements

Charge Calculation Tool and Initial Setting Tool As of February 2022

Item	Requirements
CPU	1 GHz or better (at least 2 GHz recommended)
Memory	2 GB or more
Screen resolution	1024 x 768 or better
OS	Microsoft® Windows® 11 (64bit)*1 Microsoft® Windows® 10 (64bit)*1 Microsoft® Windows® 8.1 (64bit)*1
System requirements	The system should meet the minimum requirements for Windows 8.1, Windows 10, or Windows 11 • .NET Framework Ver. 4.8 or later*2 • Microsoft® Excel 2013 (32bit)/2016 (32bit)/2019 (32bit) (when using a trial run check sheet or data verification function of Initial Setting Tool)
Internal LAN port or LAN card	100 BASE-TX or better
Pointing device	Mouse, etc.
USB	1 port or more

*1 Verified to work on the Pro edition

*2 When installing the Charge Calculation Tool, the page will jump to the download site if .NET Framework 4.8 or later is not installed.

Note

- The use of the latest version of the OS is recommended.

1-5. Version restrictions

Tool versions that can be used vary with the AE-200/AE-50/EW-50 version.

AE-200/AE-50/EW-50 version	Initial Setting Tool version	.NET Framework version
Ver. 7.2-7.98	Ver. 1.9/2.0	Ver. 4.8 or later
Ver. 7.2-7.85	Ver. 1.8	Ver. 4.8 or later
Ver. 7.2-7.8	Ver. 1.7	Ver. 4.8 or later
Ver. 7.2-7.7	Ver. 1.6	Ver. 4.8 or later
Ver. 7.2-7.68	Ver. 1.5	Ver. 4.8 or later
Ver. 7.2-7.62	Ver. 1.4	Ver. 4.8 or later
Ver. 7.2-7.5	Ver. 1.3	Ver. 4.8 or later
Ver. 7.2-7.4	Ver. 1.2	Ver. 4.8 or later
Ver. 7.2-7.3	Ver. 1.1	Ver. 4.8 or later
Ver. 7.2	Ver. 1.0	Ver. 4.8 or later
Ver. 7.1	Cannot be used.	–

AE-200 version	Charge Calculation Tool version	.NET Framework version
Ver. 7.2 or later	Ver. 1.20	Ver. 4.8 or later

Note

- Make sure to unify the versions of AE-200/AE-50/EW-50. If the versions are different, a “7905” error will be detected and the controllers cannot be operated.
- Refer to the AE-200/AE-50/EW-50 Installation Manual or the Instruction Book –Initial Settings– for how to check the AE-200/AE-50/EW-50 versions and how to update the software.
- Initial Setting Tool is upper compatible as shown in the table above. However, when the settings data is sent from the latest version’s Initial Setting Tool to the older version’s centralized controller, some settings cannot be configured on the centralized controller.

2. Introduction

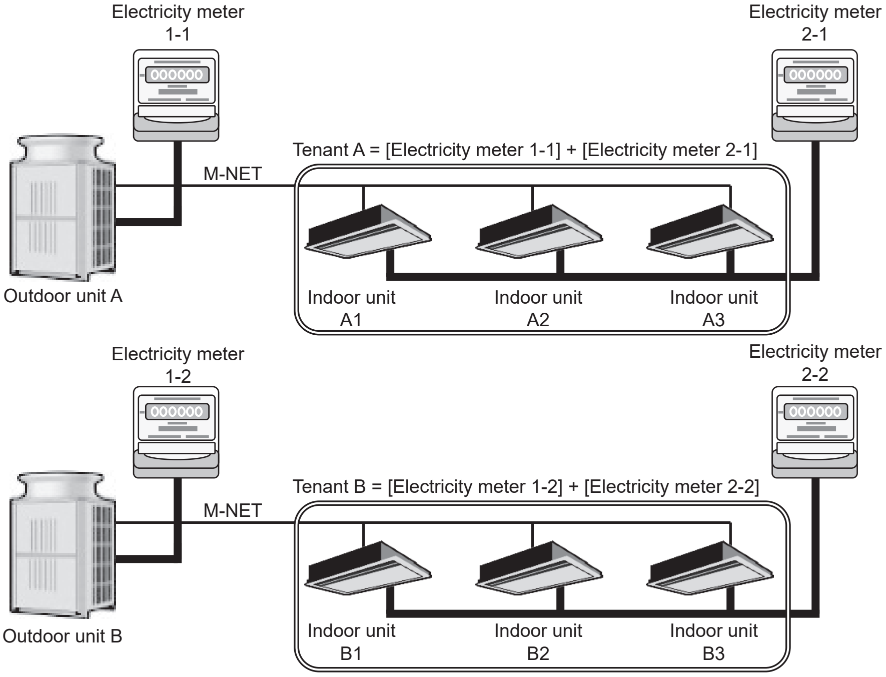
Before using an apportioned electricity billing function (AE-200 Apportion), initial settings and trial run must be completed beforehand by authorized personnel on site. Please receive an explanation from your dealer or contractor on how to use the function.

* For dealers and contractors
Install the software (tool), make initial settings, and perform trial runs according to the procedures in the order of sections 5, 6, and 7 in this manual. Provide sufficient explanation about an apportioned electricity billing function to the customer, referring to section 2 (2-7).

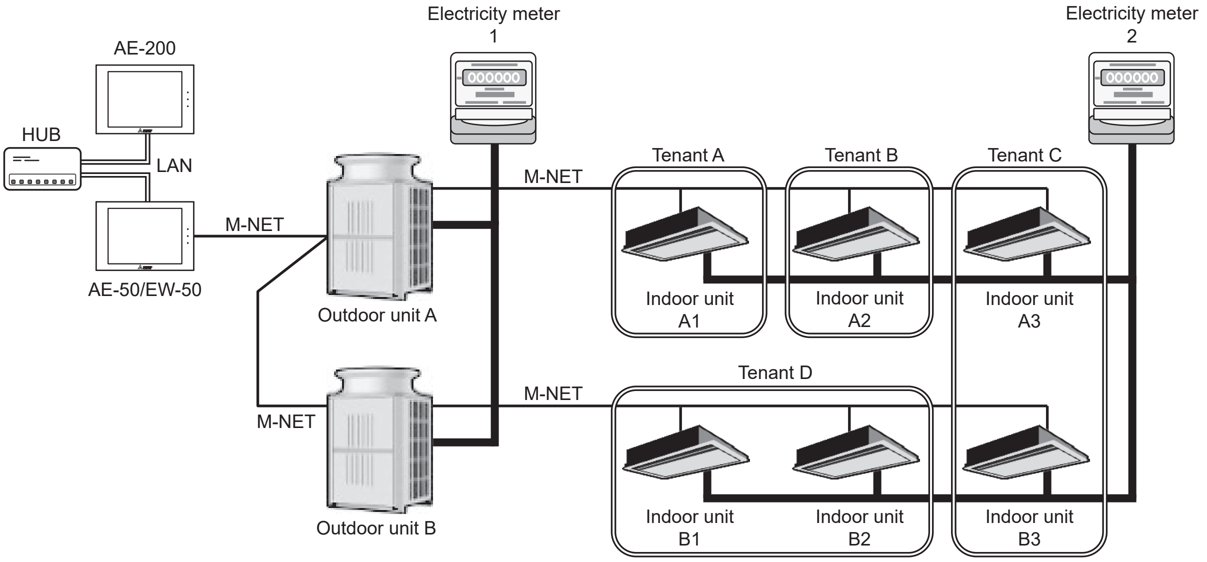
2-1. About apportioned electricity billing function

If an outdoor unit is used by a single tenant, the amount of electric energy consumption for each tenant can be ascertained by installing electricity meters on the indoor and outdoor units in each system. However, if the indoor units in the same system are installed to multiple tenants, the electric energy consumption for each tenant cannot be calculated with the electricity meter. Consequently, an apportioned electricity billing function is required.
The apportioned electricity billing function is our original electric energy apportionment system that apportions electric energy using input from electricity meters with a pulse generator function. Rather than directly measuring the electric energy used by each air conditioner, pulses are input based on the air conditioner usage by determining the air conditioner operating status from the content of its communication with the indoor and outdoor units.
When using the apportioned electricity billing function along with electricity meters in a configuration where VRF and HVRF systems are combined, at least one electricity meter must be connected to each type of systems. A single electricity meter must not be used to measure the electric energy consumptions of both VRF and HVRF systems.
When using the apportioned electricity billing function without the use of electricity meters in a configuration in which a VRF system and an HVRF system with indoor units that do not have a flow-control valve are combined, make sure to apportion the electric energy consumption of the outdoor units by thermo-ON time or fan operation time to ensure appropriate apportioning of electric energy consumption between VRF and HVRF systems. In a system with both the VRF system and the HVRF system that includes the W/WL type (with optional valve kit) indoor units with a flow-control valve, the power consumed by outdoor units can be apportioned based on the capacity save amount.

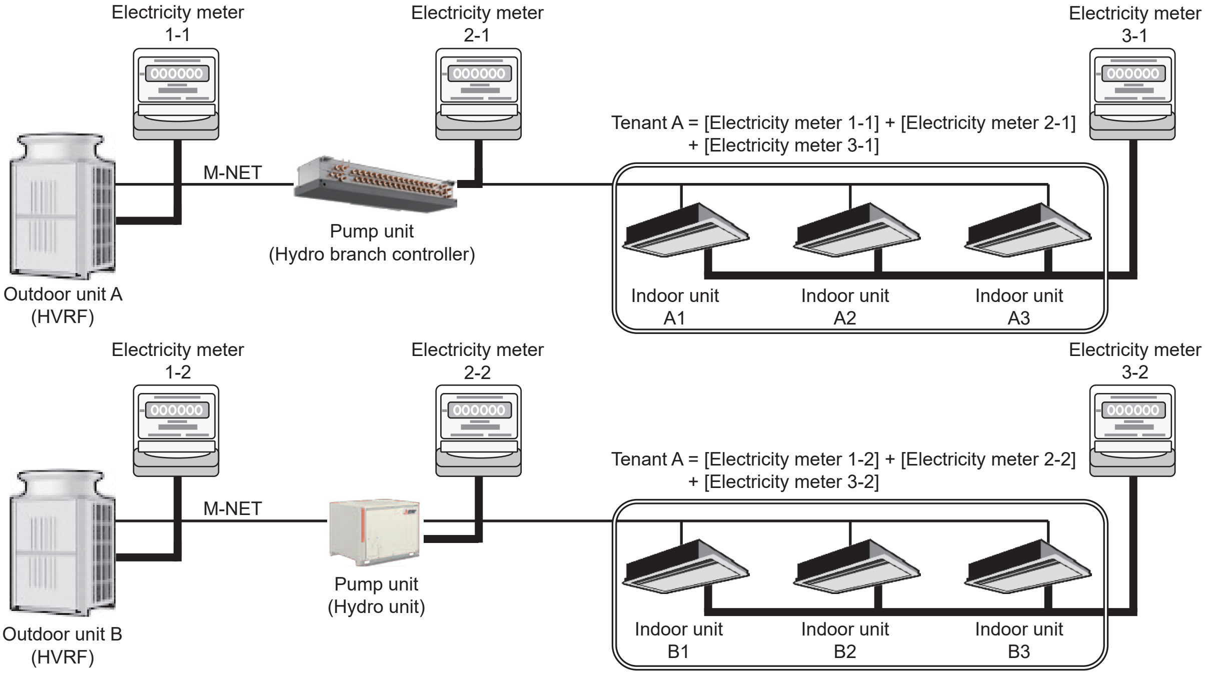
(Example 1) A configuration where the apportioned electricity billing function is not required (where the outdoor units are each used by just one tenant)


Electricity meter 1-1
Electricity meter 2-1
Tenant A = [Electricity meter 1-1] + [Electricity meter 2-1]
M-NET
Outdoor unit A
Indoor unit A1
Indoor unit A2
Indoor unit A3
Electricity meter 1-2
Electricity meter 2-2
Tenant B = [Electricity meter 1-2] + [Electricity meter 2-2]
M-NET
Outdoor unit B
Indoor unit B1
Indoor unit B2
Indoor unit B3

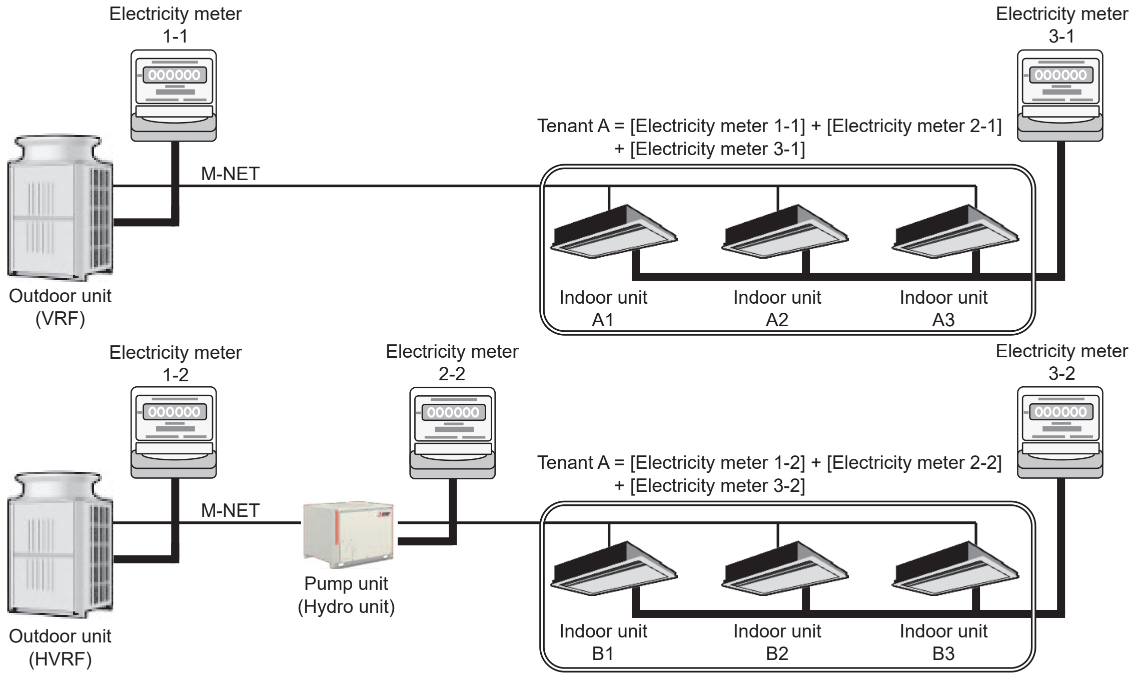
(Example 2) A configuration where the apportioned electricity billing function is required (when the outdoor units in the same system are installed to multiple tenants)


Electricity meter 1
Electricity meter 2
AE-200
HUB
LAN
AE-50/EW-50
M-NET
Outdoor unit A
M-NET
Tenant A
Tenant B
Tenant C
Indoor unit A1
Indoor unit A2
Indoor unit A3
Tenant D
M-NET
M-NET
Outdoor unit B
Indoor unit B1
Indoor unit B2
Indoor unit B3

(Example 3) HVRF system


Electricity meter 1-1
Electricity meter 2-1
Electricity meter 3-1
Tenant A = [Electricity meter 1-1] + [Electricity meter 2-1] + [Electricity meter 3-1]
M-NET
Pump unit (Hydro branch controller)
Outdoor unit A (HVRF)
Indoor unit A1
Indoor unit A2
Indoor unit A3
Electricity meter 1-2
Electricity meter 2-2
Electricity meter 3-2
Tenant A = [Electricity meter 1-2] + [Electricity meter 2-2] + [Electricity meter 3-2]
M-NET
Pump unit (Hydro unit)
Outdoor unit B (HVRF)
Indoor unit B1
Indoor unit B2
Indoor unit B3

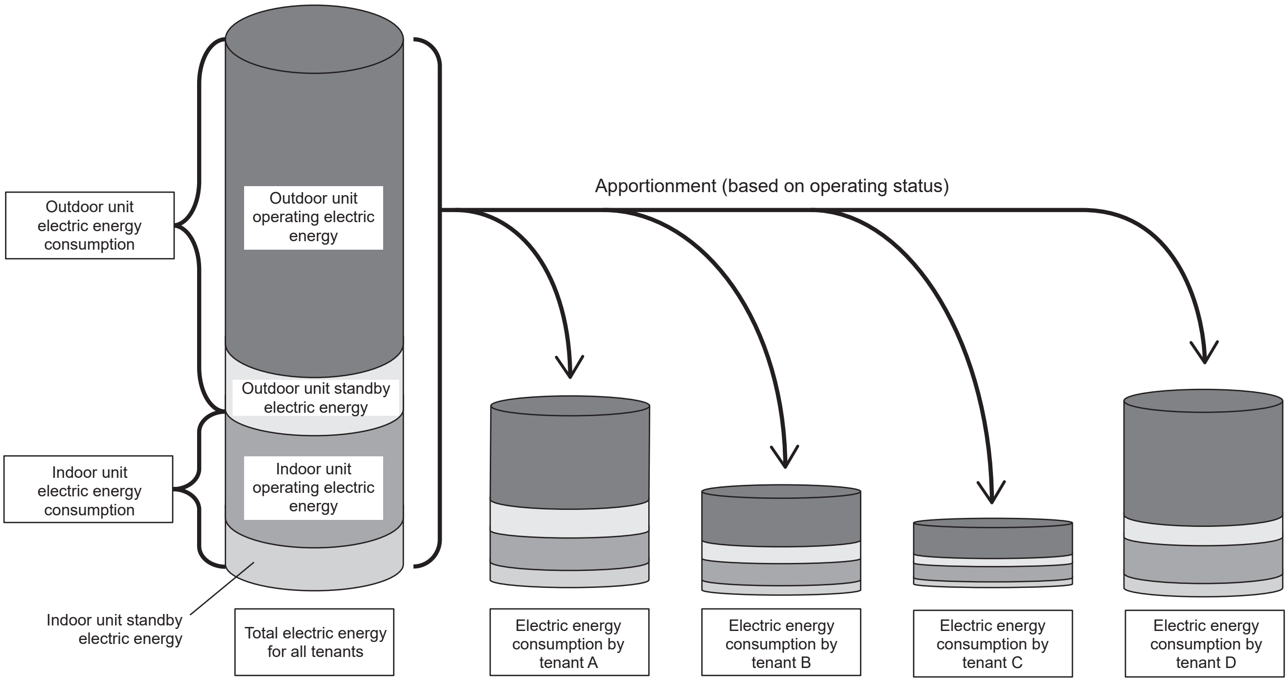
(Example 4) A configuration where VRF and HVRF systems are combined


Electricity meter 1-1
Electricity meter 3-1
000000
Tenant A = [Electricity meter 1-1] + [Electricity meter 2-1] + [Electricity meter 3-1]
M-NET
Outdoor unit (VRF)
Indoor unit A1
Indoor unit A2
Indoor unit A3
Electricity meter 1-2
Electricity meter 2-2
Electricity meter 3-2
Tenant A = [Electricity meter 1-2] + [Electricity meter 2-2] + [Electricity meter 3-2]
M-NET
Pump unit (Hydro unit)
Outdoor unit (HVRF)
Indoor unit B1
Indoor unit B2
Indoor unit B3

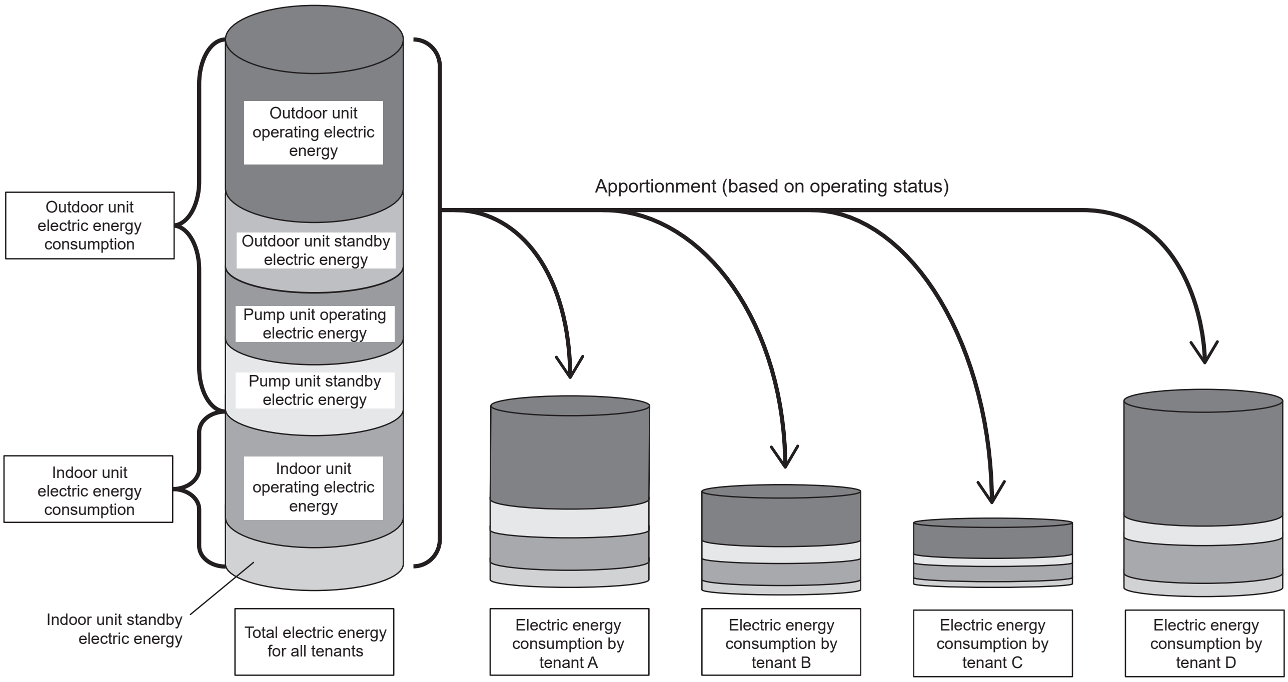
The electric energy used by an air conditioner consists of the electric energy that is consumed by the outdoor unit and the electric energy that is consumed by the indoor unit. And the outdoor unit electric energy consumption consists of the operating electric energy plus the standby electric energy. Similarly, the indoor unit electric energy consumption consists of the operating electric energy plus the standby electric energy.
With the apportioned electricity billing function, the respective amounts of electric energy can be apportioned based on the operating status and capacity of each tenant.

The example below describes a system where electric energy is metered (with-metering-device method). (In systems where the electric energy is entered manually (no-metering-device method), standby electric energy will not be apportioned.)

1) VRF system


Apportionment (based on operating status)
Outdoor unit electric energy consumption
Outdoor unit operating electric energy
Outdoor unit standby electric energy
Indoor unit electric energy consumption
Indoor unit operating electric energy
Indoor unit standby electric energy
Total electric energy for all tenants
Electric energy consumption by tenant A
Electric energy consumption by tenant B
Electric energy consumption by tenant C
Electric energy consumption by tenant D

2) HVRF system


Apportionment (based on operating status)
Outdoor unit electric energy consumption
Outdoor unit operating electric energy
Outdoor unit standby electric energy
Pump unit operating electric energy
Pump unit standby electric energy
Indoor unit electric energy consumption
Indoor unit operating electric energy
Indoor unit standby electric energy
Total electric energy for all tenants
Electric energy consumption by tenant A
Electric energy consumption by tenant B
Electric energy consumption by tenant C
Electric energy consumption by tenant D

The apportioned electricity billing function can be implemented either by apportioning in the AE-200 units or by using the TG-2000A integration software. This manual explains how to use the function by apportioning in AE-200 units.
If you are using the integrated management software TG-2000A, refer to the TG-2000A Instruction Book.

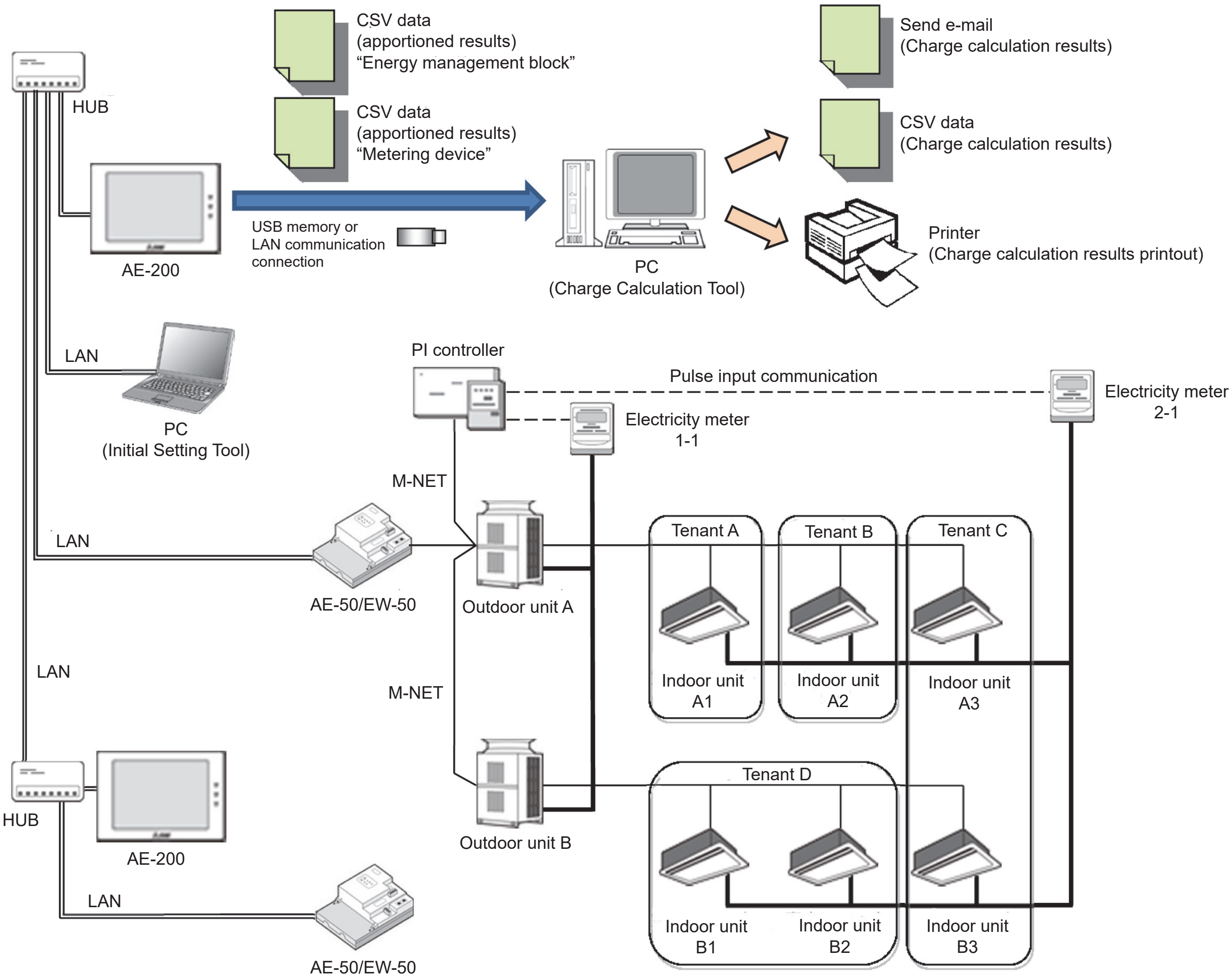
2-2. System overview

The AE-200/AE-50/EW-50 units provide a comprehensive air conditioning management system that supports web access.
Through the use of the apportioned electricity billing function, they also allow the electric energy used by each operating air conditioner to be calculated.

Note

- The example below describes a system where electric energy is metered (with-metering-device method).

The figure below provides a schematic of the system configuration.


CSV data
(apportioned results)
"Energy management block"
CSV data
(apportioned results)
"Metering device"
Send e-mail
(Charge calculation results)
CSV data
(Charge calculation results)
Printer
(Charge calculation results printout)
HUB
AE-200
USB memory or
LAN communication
connection
PC
(Charge Calculation Tool)
LAN
PC
(Initial Setting Tool)
PI controller
Pulse input communication
Electricity meter
1-1
Electricity meter
2-1
M-NET
LAN
AE-50/EW-50
Outdoor unit A
Tenant A
Tenant B
Tenant C
Indoor unit
A1
Indoor unit
A2
Indoor unit
A3
LAN
M-NET
Tenant D
HUB
AE-200
Outdoor unit B
LAN
Indoor unit
B1
Indoor unit
B2
Indoor unit
B3
AE-50/EW-50

Apportioned electricity billing function requires the following tools:

- **Charge Calculation Tool**
  This tool is required in order to use the AE-200 CSV data (apportioned results) to output the electricity charges for each tenant, either as a CSV file or as hard-copy printout.

- **Initial Setting Tool**
  This tool is required to make the settings for the apportioned electricity billing function.

Note

- Charge Calculation Tool can calculate the charges for up to 40 AE-50/EW-50 controllers collectively.
  Although the connection destination of Charge Calculation Tool is AE-200, AE-200 units set as [AE-200 (Billing)] or [AE-200 (No M-NET)] on the Initial Setting Tool are not included in this 40 connections.
  Refer to section 1-4 "PC requirements" for information on the PC system requirements.
  Refer to section 5 "Preparation of the software (installation)" for how to install the software.
  Refer to section 6-2-2 "AE-200 unit settings" for how to make AE-200 unit settings.

2-3. Selecting the operation method

As shown in the figure below, note that the setting procedure and output method differ depending on the billing apportionment data collection method and charge calculation method.

Charge calculation method

① Closing date calculation (Automatic output)
A method where the charge calculation results are automatically output by the PC on the closing date each month.

* The PC must be running at the time the results are output.

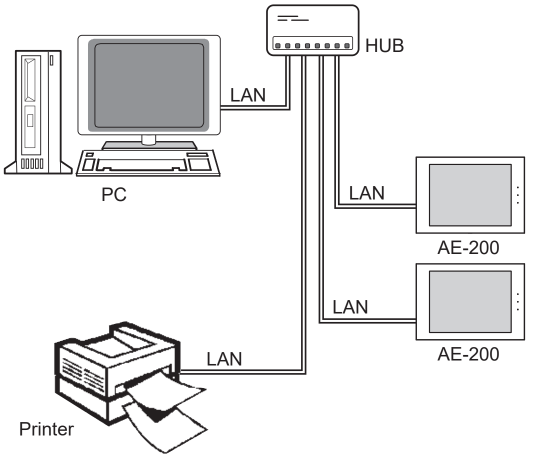
* Results can also be automatically output once a day.

② Specified date calculation
A method where charges are calculated and output by manually specifying a target period.

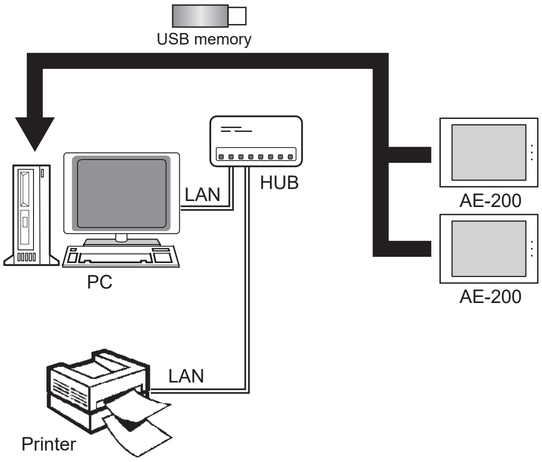
* The PC must be started up at the time the results are output.

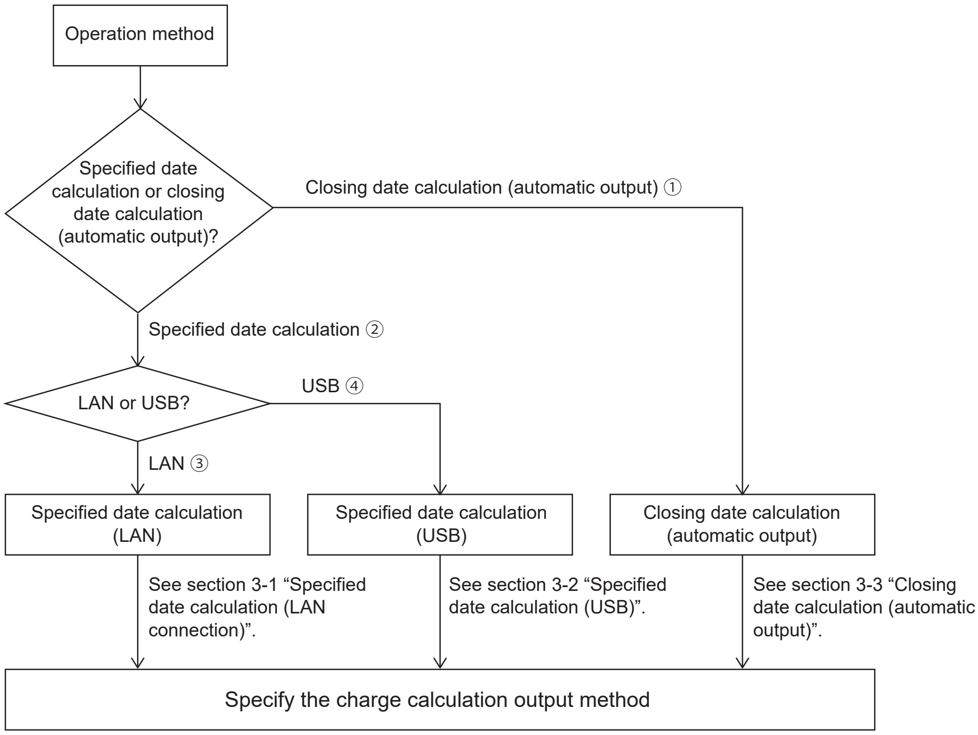
Billing apportionment data collection method

③ When the AE-200 and PC are connected via a LAN
(AE-50/EW-50 units are omitted in the figure below.)


HUB
LAN
PC
LAN
AE-200
LAN
AE-200
LAN
Printer

④ When the CSV data (apportioned results) are exported from the AE-200 to USB memory
(AE-50/EW-50 units are omitted in the figure below.)


USB memory
HUB
LAN
PC
AE-200
AE-200
LAN
Printer


Operation method
Specified date calculation or closing date calculation (automatic output)?
Closing date calculation (automatic output) ①
Specified date calculation ②
LAN or USB?
USB ④
LAN ③
Specified date calculation (LAN)
Specified date calculation (USB)
Closing date calculation (automatic output)
See section 3-1 “Specified date calculation (LAN connection)”.
See section 3-2 “Specified date calculation (USB)”.
See section 3-3 “Closing date calculation (automatic output)”.
Specify the charge calculation output method

2-4. Function list

Electricity meter measurement method *1*2		Systems where electric energy is metered (with-metering-device method): A system where the amount of electric energy and the charges are calculated by connecting a PI controller and capturing electric energy pulses *5
		Systems where electric energy is entered manually (no-metering-device method): A system where the charge rates are calculated without connecting electricity meters
Apportionment method		Outdoor unit electric energy apportionment Operating electric energy (capacity save amount, thermo-ON time, fan operation time) Standby electric energy (apportioned/not apportioned)
		Indoor unit electric energy apportionment Operating electric energy (apportioned/not apportioned) Standby electric energy (apportioned/not apportioned)
Charge calculation method *3*4		Specified date calculation The charge calculation results for a specified date can be output either as a CSV file or as hard-copy printout. Electric energy data from an AE-200 can be acquired either via a LAN connection or using USB memory.
		Closing date (automatic output) calculation Daily or monthly charge calculation results can be automatically output either as a CSV file or as hard-copy printout. Electric energy data from an AE-200 can only be acquired via a LAN connection. When outputting charge calculation results monthly, either the end of the month or any date between the 1st and the 28th can be selected as the closing date.*6 When using closing date calculation, a PC with the Charge Calculation Tool installed must be running at 5.00 AM on the day after the closing date for monthly calculation, or at 5.00 AM every day for daily calculation.
	Standby electric energy invoicing method *2	Either to invoice for standby electric energy (invoices to tenants) or to not invoice (left to the building owner's discretion) can be selected. (Refer to section 6-7-1 "Billing function settings" for details.)
Printing/CSV output setting *7	Systems where electric energy is metered (with-metering-device method)	You can print and/or output CSV files for each energy management block (tenant). • Apportioned electric energy (total) • Apportioned electric energy and electricity charges for the respective unit prices (1-5) • Air conditioning charges
		You can print and/or output CSV files for each metering device. • Measurement value (total) • Unit (kWh, m3, MJ, (blank)) • Measurement values for the respective unit prices (1-5) • Charges
	Systems where electric energy is entered manually (no-metering-device method)	You can print and/or output CSV files for each energy management block (tenant). • Indoor unit charge rate • Outdoor unit charge rate

*1 The AE-200 apportioned electricity billing function does not support the PLC (electric energy counting software) system.

*2 In systems where electric energy is entered manually (no-metering-device method), only charge rates will be calculated. Electric energy charges cannot be calculated.
The "AE-200ChargeCalc.xlsm" tool, which supports easy calculation of air conditioning charges based on the calculated charge ratio, is installed together with the Charge Calculation Tool. To use this tool, refer to "Appendix 1. Using the AE-200 Charge Calculation Support Tool".

*3 Display and printing is possible for charge calculations up to 62 days previously.

*4 Charges for periods more than 62 days ago can be recalculated by periodically saving CSV files onto USB memory.

*5 Electricity meters are required for each AE-200 system (combination of AE-200 and AE-50/EW-50). (Electric energy will be apportioned for each AE-200 system.)

*6 29th, 30th or 31st cannot be set as the closing date.

*7 The information displayed for printing and CSV output is different.
Refer to sections 3-5 "Printing the charge calculation results" and 3-6 "Examples of charge calculation results CSV output" for details.

2-5. Models of units that support the apportioned electricity billing function

The table below shows the support status of the AE-200 apportioned electricity billing function for each model of units.

Connectivity ○ : Connectable × : Not connectable
◇ : Restrictions apply. ○ : Apportionment possible × : Not supported

Model / Function					Connectivity	Apportioned electricity billing function	Remarks
CITY MULTI	Outdoor Unit	Y series		PUHY-(E)P	○	○	
				PUHY-(E)M	○	○	
		R2 series		PURY-(E)P	○	○	
				PURY-(E)M	○	○	
		WY series		PQHY-P	○	○	
		WR2 series		PQRY-P	○	○	
		ZUBADAN Y series		PUHY-HP	○	○	
		ZUBADAN R2 series		PURY-HP	○	○	
		REPLACE MULTI Y series		PUHY-RP	○	○	
		REPLACE MULTI R2 series		PURY-RP	○	○	
		S series		PUMY-P	○	○	
		K control type			×	×	
	Indoor Unit	OA processing unit (FU attribute)		GUF	○	○	Power for humidifying is not taken into account.
		OA processing unit (IU attribute)		GUF	○	○	Power for humidifying is not taken into account.
		Flesh air intake		PEFY-P-E-F PEFY-P-E-OA	○	○	
		DOAS		PEFY-AF-CFM(R)-E	○	◇	Install a designated electricity meter for DOAS.
		Air to water (PWFY) unit	HEX unit	PWFY-AU	○	×	
			Booster unit	PWFY-BU	○	×	
		LEV kit		PAC-LV11	○	×	
		AHU kit		PAC-AH	○	×	
		K control type			×	×	
		Other than above			○	○	
HYBRID CITY MULTI	Outdoor Unit	Y series		PUHY-(E)M	○	○	
		R2 series		PURY-(E)M	○	○	
				PURY-(E)P	○	○	
	Indoor Unit	WP type		P*FY-WP	○	○	Electric energy consumption of the outdoor units will be apportioned by the thermo-ON time, even if apportionment by capacity save amount is selected.
		W type		P*FY-W	○	○	Electric energy consumption of the outdoor units can be apportioned by the capacity save amount.
		WL type		P*FY-WL	○	○	Electric energy consumption of the outdoor units can be apportioned by the capacity save amount. (An optional valve kit is required.)

Connectivity ○ : Connectable × : Not connectable
◇ : Restrictions apply. ○ : Apportionment possible × : Not supported

Model		Function	Connectivity	Apportioned electricity billing function	Remarks
Large capacity floor standing PAC		PFAV	○	○	Separately install an electricity meter for packaged air conditioner for equipment.
CLOSE CONTROL SYSTEM		PFD	○	◇	Install a designated electricity meter for packaged air conditioners for computer rooms (CLOSE CONTROL SYSTEM).
Commercial PAC		PFV/PEV	○	◇	Install a designated electricity meter for packaged air conditioners for facilities (commercial PAC).
HWHP unit	CAHV	CAHV	○	×	
	CRHV	CRHV	○	×	
	QAHV	QAHV	○	×	
e-series Chiller unit	EAHV	EAHV	○	×	
	EACV	EACV	○	×	
P series (PAC)	A control [*1] [*2]		○	◇	Install a designated electricity meter for A-control air conditioners.
	AK control		○	○	Apportioned in the same manner as to CITY MULTI.
	K control		×	×	
S series (PAC)	A control [*1] [*2]		○	◇	Install a designated electricity meter for A-control air conditioners.
	AK control		○	○	Apportioned in the same manner as to CITY MULTI.
	K control		×	×	
M series (RAC)	A control		○	◇	Install a designated electricity meter for RAC.
	AK control		○	○	Apportioned in the same manner as to CITY MULTI.
	K control		×	×	
MEHT-CH&HP Unit			○ [*3]	×	
Lossnay (with M-NET)		LGH	○	×	
General equipment through DIDO controller			○	×	
General equipment through PLC			×	×	Out of scope of monitoring and operation on AE-200/AE-50/EW-50
General equipment through Indoor unit free contact			○	×	

If “ × (Not supported)” appears in the “Apportioned electricity billing function” for certain models, connect a separate electricity meter for each, and read the meter of the electricity meter.

[*1] Apportionment in the outdoor unit power consumption apportionment mode “capacity save amount” is possible only when one of the following models of M-NET adapter is used.
PAC-SJ95MA, 96MA, SF81MA, SF83MA, SJ19MA
When another model is used, set the apportionment mode to “Thermo ON time” or “FAN operation time.”

[*2] Select one of the “Power source of A-control unit” setting options from [Same power source (O/U - I/U)] and [Separated power source (O/U- I/U)].

[*3] Only AE-50E/EW-50E

2-6. System restrictions

- "Charge" license is required for each AE-200/AE-50/EW-50.
- Combinations of AE-200 and AE-50/EW-50 units are required.
- M-NET of AE-200 for billing function cannot be used.
- Built-in Pulse Input (PI) of AE-200 for billing function cannot be used.
- Electric energy measurement using a PI controller is recommended.
  (If AE-50/EW-50 with built-in Pulse Input (PI) is used, pulse input will not be possible when the AE-50/EW-50 is stopped, during power outages or during software updates. This could result in discrepancies between the measurements and the actual electric energy used.)
- Ensure that the same software versions are used on AE-200/AE-50/EW-50 units.
- The apportioned electricity billing function (AE-200 Apportion) and apportioned electricity billing function (TG-2000A Apportion) cannot be used together.
- When the apportioned electricity billing function (AE-200 Apportion) is being used and you intend to use the TG-2000A integration software, check that the TG-2000A version is 6.60 or later.
- Electric energy pulse input is required for each AE-200 system. Power consumption cannot be proportionally calculated across the readings of the electricity meters connected to different AE-200 systems.

2-7. Notes on using the apportioned electricity billing function

- This function is our original electric energy apportionment system that apportions electric energy using input from electricity meters with a pulse generator function. Rather than directly measuring the electric energy used by each air conditioner, pulses are input based on the air conditioner usage by determining the air conditioner operating status from the content of its communication with the indoor and outdoor units.

To all users (user license agreement)

The information provided here constitutes an agreement between Mitsubishi Electric and the customer.
If this "apportioned electricity billing function for the AE-200 air conditioning control system" is used, this agreement assumes that the customer is using the aforementioned system having agreed to the terms listed below.

- **Mitsubishi Electric and its sales companies accept no liability whatsoever for any incidental, consequential or special damages incurred by the customer, even where the sales company has received notification of the potential for damages of that kind.**
  Nor is any liability accepted for any allegations regarding the rights of a third party.

Important

Any individual agreement between the building owner and a tenant regarding the use of this product should incorporate the parties' agreement to or accord with the fact that "charges for the use of air conditioning will be collected in the form of apportioned totals based on the operating status of air conditioners (including temporary measures to deal with faults)".

- **This is a system for estimating the operating electric energy used for air conditioning. As such it cannot be used as a proof of transaction.**
  Also, amounts metered using electricity meters are also counted using pulse conversion and cannot be used as a proof of transaction.
- This is not a system (or its equivalent) in which the operating electric energy used by each air conditioner is directly measured at the location where the electricity is supplied.
- Because this is an apportionment method that uses the operating status of air conditioner indoor units, even where the operating time for indoor units is the same, the amount of operating electric energy used may differ depending on the model configuration and operating status of the outdoor units.
  (The apportioned electric energy may be different when compared with a situation where an electricity meter is assigned to each air conditioner.)
- Air conditioners still receive current even when stopped, and electric energy is apportioned to idle air conditioners as standby electric energy.

- **While the amounts of electric energy, water and gas used are obtained through pulse conversion, factors such as performance and accuracy are dependent on the metering devices and Mitsubishi Electric is in no way responsible for such factors.**
- If electric power to the AE-200/AE-50/EW-50 and PI controller is interrupted due to a power outage but the air conditioner is still running, electric energy cannot be apportioned correctly.
- Because the unit price digits for each tenant (energy management block) are rounded off in the charge calculation process, the figures may differ from the total electric energy charges.
- Because time discrepancies may result in variations in the apportionment processing results, the times on the AE-200's LCD should be periodically synchronized. (Even if times have been synchronized on the AE-50/EW-50, they will be overwritten by the time on the AE-200.)
- Mitsubishi Electric accepts no liability for the incorrect apportionment of electric energy due to problems such as power outages or equipment faults.

3. Basic operations

3-1. Specified date calculation (LAN connection)

This section explains how to calculate the charges for the specified period when the AE-200 is connected to a PC via a LAN.
The AE-200 must be connected to the PC and printer (for printing) via the LAN.

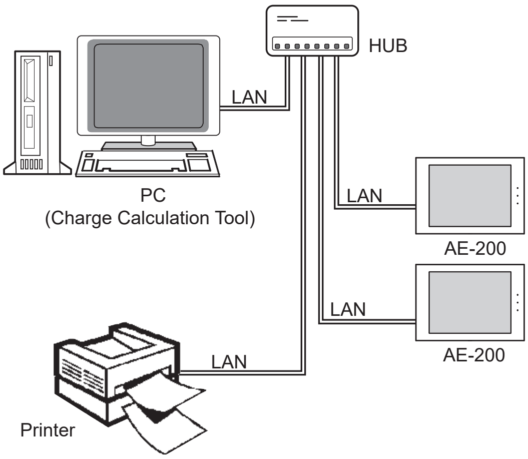
3-1-1. Preparation of the PC

By connecting the AE-200 to the PC (running the Charge Calculation Tool) via a LAN, both “Print” and “CSV output” for the charge calculation results will be enabled.

- Printer setting is required when the output method is set as “Print”.

Procedures

1. Click [Devices and Printers] in the Start menu.
2. Check that [✓] is shown on the printer to be used for printing.
   If the [✓] is shown on other printer, right-click the printer to be used for printing and then click [Set as default printer].


HUB
LAN
PC
(Charge Calculation Tool)
LAN
AE-200
LAN
AE-200
LAN
Printer

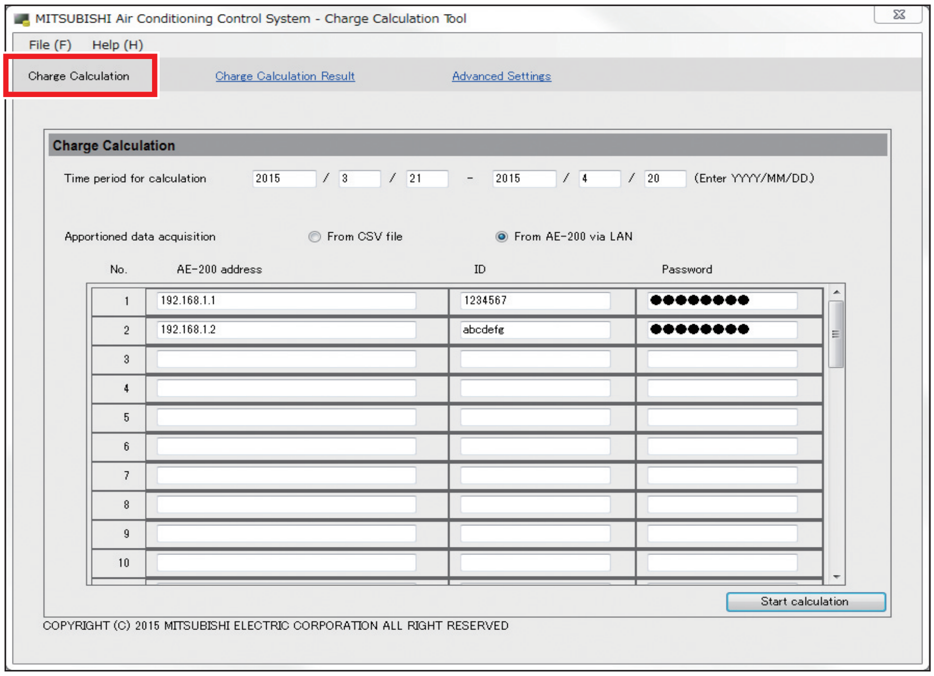
* The AE-50/EW-50 units are omitted in the figure above.

3-1-2. Making the settings for the Charge Calculation Tool

Refer to section 5-1 “Installation procedures of the Charge Calculation Tool” for how to install the Charge Calculation Tool.

Procedures

1. Start up the Charge Calculation Tool.
2. Select [Charge Calculation].


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Start calculation

Charge Calculation

Time period for calculation 2015 / 3 / 21 - 2015 / 4 / 20 (Enter YYYY/MM/DD)

Apportioned data acquisition ○ From CSV file ● From AE-200 via LAN

No.	AE-200 address	ID	Password
1	192.168.1.1	1234567	●●●●●●●●
2	192.168.1.2	abcdefg	●●●●●●●●
3			
4			
5			
6			
7			
8			
9			
10			

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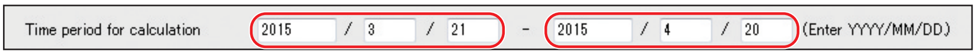
3. In “Time period for calculation”, enter the start date and end date for the time period for which you want to calculate the charges in the respective input fields. (Format: YYYY/MM/DD)

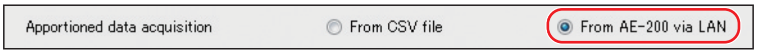


Time period for calculation 2015 / 3 / 21 - 2015 / 4 / 20 (Enter YYYY/MM/DD)

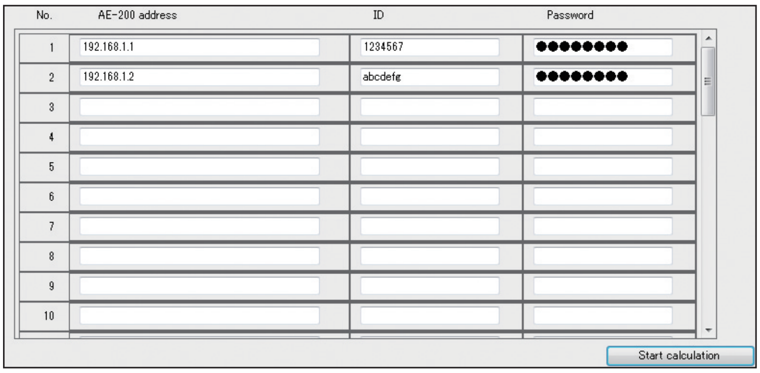
Note

- Calculations on the Charge Calculation Tool will be output for periods shorter than that covered by the data stored in the AE-200 (maximum of the preceding 62 days).

4. In the Basic Settings screen, select [From AE-200 via LAN] as the apportioned data acquisition method.



Apportioned data acquisition ○ From CSV file ● From AE-200 via LAN



No.	AE-200 address	ID	Password
1	192.168.1.1	1234567	●●●●●●●●
2	192.168.1.2	abcdefg	●●●●●●●●
3			
4			
5			
6			
7			
8			
9			
10			

5. AE-200 address input field
   - Enter the IP address of the AE-200.
   - If there are multiple AE-200 units, enter the IP addresses of all the AE-200 units.
   - AE-50/EW-50 units within the AE-200 system do not need to be registered.
6. ID and password input fields
   - Enter the ID and password set for the AE-200 for which you want to calculate charges.
   - Enter the ID and password of the building manager for the AE-200.
7. Click [Start calculation].
   The charge calculation results will be displayed. (Refer to section 3-4 “Displaying charge calculation results”.)

Note

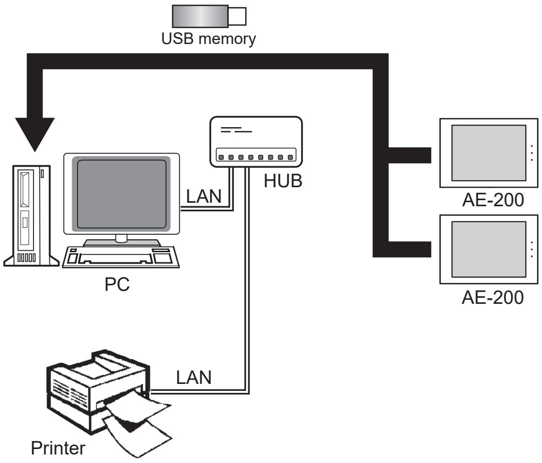
- The settings in procedures 4 to 6 will be retained so if no changes are required, you don’t need to make the settings for the second time onwards.
- The apportioned data can be acquired from the day after the operation start day.

3-2. Specified date calculation (USB)

This section explains how to calculate the charges for the specified period when CSV data (the apportioned results) has been exported from the AE-200 using a USB memory.

3-2-1. Preparation of the PC

You can export the CSV data (apportioned results) from the AE-200 to a USB memory, calculate the data on a PC (running the Charge Calculation Tool) and then “Print” and “CSV output” the charge calculation results.



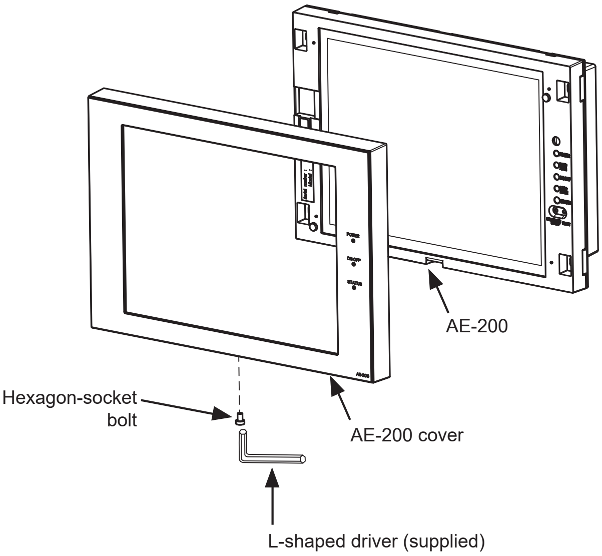
3-2-2. Data acquisition using USB memory

[1] CSV files (apportioned results) in systems where electric energy is metered (with-metering-device method)

“Energy management block” data and “Metering device” data are required for the charge calculation.
This section explains how to output these data from the AE-200 to USB memory.

Procedures

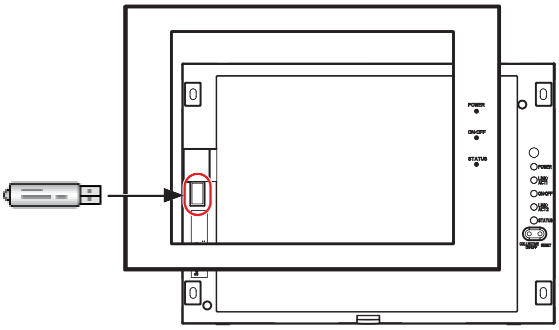
1. Using an L-shaped driver, remove the hexagon-socket bolt on the underside of the AE-200 unit and then remove the cover.



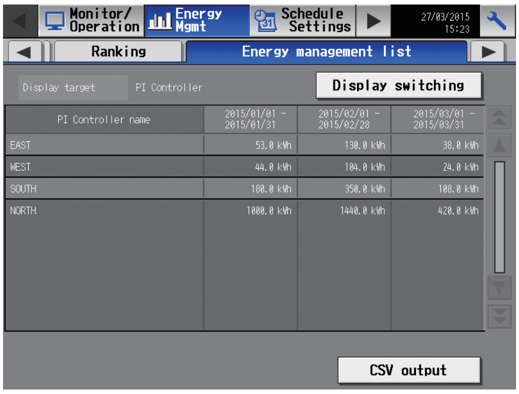
Note

- If a separately sold Surface cover with USB port (PAC-YG72CWL-J) is used, you do not need to remove the AE-200 cover. Open the USB port cover.

2. Connect a USB memory.


POWER
ON/OFF
STATUS

3. Touch [Energy Mgmt] > [Energy management list] on the AE-200's LCD.


Monitor/ Operation
Energy Mgmt
Schedule Settings
27/03/2015 15:23
Ranking
Energy management list
Display target
PI Controller
Display switching
CSV output

PI Controller name	2015/01/01 - 2015/01/31	2015/02/01 - 2015/02/28	2015/03/01 - 2015/03/31
EAST	53.0 kWh	130.0 kWh	38.0 kWh
WEST	44.0 kWh	104.0 kWh	24.0 kWh
SOUTH	180.0 kWh	350.0 kWh	108.0 kWh
NORTH	1000.0 kWh	1440.0 kWh	420.0 kWh

4. Touch [CSV output] to display the CSV output screen and then follow the steps ① to ③ .

① Data to be output

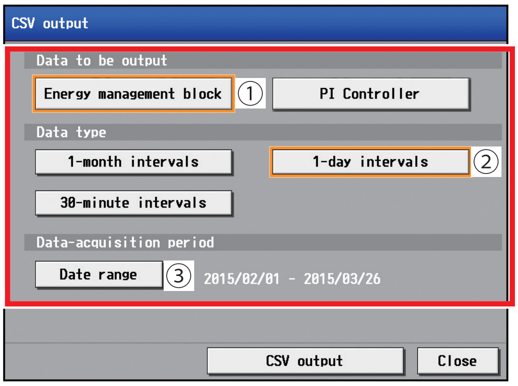
- Select [Energy management block].

② Data type

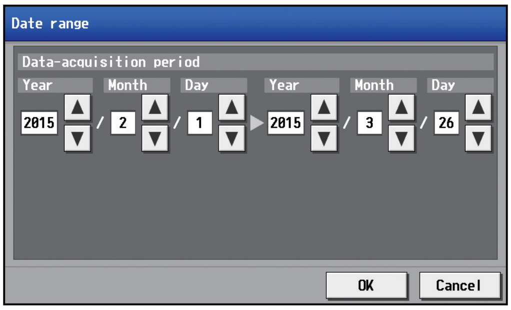
- Select [1-day intervals].

③ Data-acquisition period

- Touch [Date range] and select the previous 62 days as the range.


CSV output
Data to be output
Energy management block
①
PI Controller
Data type
1-month intervals
1-day intervals
②
30-minute intervals
Data-acquisition period
Date range
③
CSV output
Close

2015/02/01 - 2015/03/26


Date range
Data-acquisition period
Year
Month
Day
Year
Month
Day
OK
Cancel

2015 / 2 / 1 ▶ 2015 / 3 / 26

5. Touch [CSV output].

6. When the "The data has been copied." message appears, touch [OK] to return to the "CSV output" screen.

7. Change the [Energy management block] selected as the data to be output in step 4 ① to [PI Controller] and then touch [CSV output].

Note

- To calculate the charges, be sure to select [1-day intervals].
(Do not select [1-month intervals] or [30-minute intervals].)
- The AE-200 creates the data for the previous day at 0:30 and holds the data for the previous 62 days in 1-day intervals.

- The Charge Calculation Tool can calculate charges within the date range of the CSV data (apportioned results) output from the AE-200.
  For example, when the CSV data (apportioned results) acquired on the LCD runs from April 1, 2015 to April 30, 2015, the Charge Calculation Tool cannot calculate charges for CSV data outside that range (e.g. March 20, 2015 to April 19, 2015). Consequently, it is recommended that you specify the maximum date range (the previous 62 days) for CSV data (apportioned results) output.
- Refer to section 4-2 “Calculating the charges for 2 months ago or earlier” to calculate charges for data more than 62 days (2 months) previously.

8. Touch [Close].

[2] Systems where the electric energy is entered manually (no-metering-device method)

Even when no electricity meters are connected, the charge rate can still be calculated by using “Energy management block” data.

Procedures

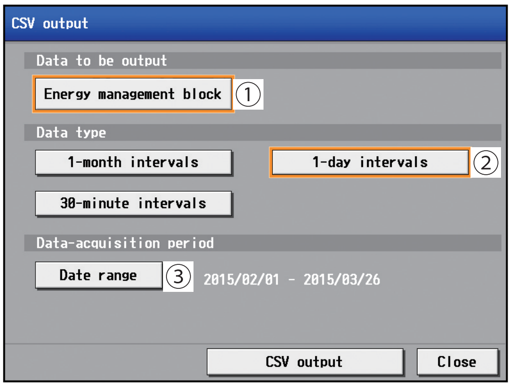
1.-3. Refer to section [1] “CSV files (apportioned results) in systems where electric energy is metered (with-metering-device method)”.

4. Touch [CSV output] to display the CSV output screen and then follow the steps ① to ③ .

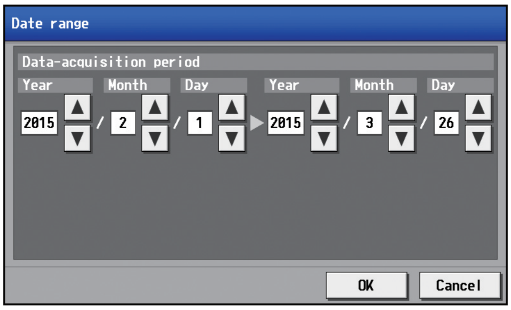
① Data to be output
- Select [Energy management block].

② Data type
- Select [1-day intervals].

③ Data-acquisition period
- Touch [Date range] and select the previous 62 days as the range.


CSV output
Data to be output
Energy management block
①
Data type
1-month intervals
1-day intervals
②
30-minute intervals
Data-acquisition period
Date range
③
CSV output
Close

2015/02/01 - 2015/03/26


Date range
Data-acquisition period
Year
Month
Day
Year
Month
Day
OK
Cancel

2015 / 2 / 1 ▶ 2015 / 3 / 26

5. Touch [CSV output].

Note

- To calculate the charges, be sure to select [1-day intervals].
  (Do not select [1-month intervals] or [30-minute intervals].)
- The AE-200 creates the data for the previous day at 0:30 and holds the data for the previous 62 days in 1-day intervals.
- The Charge Calculation Tool can calculate charges within the date range of the CSV data (apportioned results) output from the AE-200.
  For example, when the CSV data (apportioned results) acquired on the LCD runs from April 1, 2015 to April 30, 2015, the Charge Calculation Tool cannot calculate charges for CSV data outside that range (e.g. March 20, 2015 to April 19, 2015). Consequently, it is recommended that you specify the maximum date range (the previous 62 days) for CSV data (apportioned results) output.
- Refer to section 4-2 “Calculating the charges for 2 months ago or earlier” to calculate charges for data more than 62 days (2 months) previously.

6. Touch [Close].

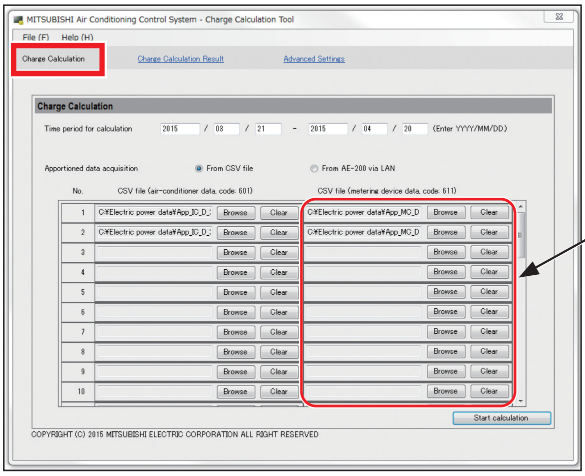
3-2-3. Making the settings for the Charge Calculation Tool

Refer to section 5-1 “Installation procedures of the Charge Calculation Tool” for how to install the Charge Calculation Tool.

[1] Systems where electric energy is metered (with-metering-device method)

Procedures

1. Start up the Charge Calculation Tool.
2. Select [Charge Calculation].


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Browse
Clear
Start calculation

Charge Calculation

Time period for calculation 2015 / 03 / 21 - 2015 / 04 / 20 (Enter YYYY/MM/DD)

Apportioned data acquisition ● From CSV file ○ From AE-200 via LAN

No.	CSV file (air-conditioner data, code: 601)	CSV file (metering device data, code: 611)
1	C:¥Electric power data¥App_IC_D_	C:¥Electric power data¥App_MC_D
2	C:¥Electric power data¥App_IC_D_	C:¥Electric power data¥App_MC_D
3		
4		
5		
6		
7		
8		
9		
10		

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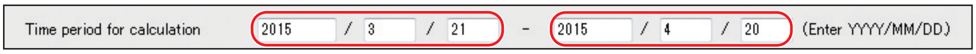
Displayed when the “Metering device connection” setting is “Connected”.

Note

- Refer to section 4-1-2 “Charge Calculation Tool settings” for “Metering device connection” settings.

3. In “Time period for calculation”, enter the start date and end date for the time period for which you want to calculate the charges in the respective input fields. (Format: YYYY/MM/DD)

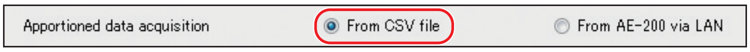


Time period for calculation 2015 / 3 / 21 - 2015 / 4 / 20 (Enter YYYY/MM/DD)

Note

- The Charge Calculation Tool can calculate charges within the date range of the CSV data (apportioned results) output from the AE-200.
  For example, if the CSV data (apportioned results) acquired on the LCD runs from April 1, 2015 to April 30, 2015, the Charge Calculation Tool cannot calculate charges for CSV data outside that range (e.g. March 20, 2015 to April 19, 2015). Consequently, it is recommended that you specify the maximum date range (the previous 62 days) for CSV data (apportioned results) output.
- Refer to section 4-2 “Calculating the charges for 2 months ago or earlier” to calculate charges for data more than 62 days (2 months) previously.

4. Select [From CSV file] as the apportioned data acquisition method in the charge calculation screen.



Apportioned data acquisition ● From CSV file ○ From AE-200 via LAN

5. Click [Browse] for the CSV file (air-conditioner data), select the “Energy management block” data file for the CSV data (apportioned results) acquired from the AE-200 and then click [Open].

- The file names for CSV data (apportioned results) are as shown below.

■Energy management block

- 1-day intervals: “App”_“IC”_D_[start year]-[start month]-[start day]_[end year]-[end month]-[end day].csv

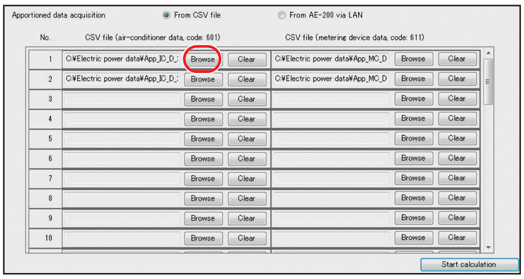
■Metering device

- 1-day intervals: “App”_“MC”_D_[start year]-[start month]-[start day]_[end year]-[end month]-[end day].csv

Example: For data at 1-day intervals with a target period of March 1, 2015 to April 30, 2015
Energy management block data: App_IC_D_2015-03-01_2015-04-30.csv
Metering device data: App_MC_D_2015-03-01_2015-04-30.csv

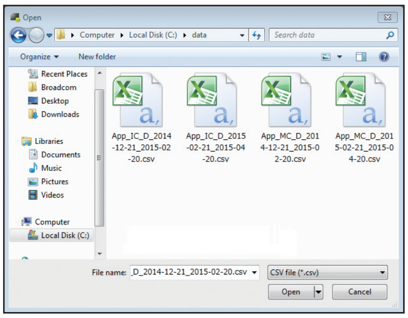
Note

- In the file name, “IC” denotes energy management blocks, “MC” denotes a PI controller, and “D” denotes data at 1-day intervals.


Apportioned data acquisition
From CSV file
From AE-200 via LAN
No.
CSV file (air-conditioner data, code: 601)
CSV file (metering device data, code: 611)
Browse
Clear
Start calculation

1 C:¥Electric power data¥App_IC_D_ | C:¥Electric power data¥App_MC_D

2 C:¥Electric power data¥App_IC_D_ | C:¥Electric power data¥App_MC_D


Open
Computer ▸ Local Disk (C:) ▸ data
Search data
Organize ▾
New folder
Recent Places
Broadcom
Desktop
Downloads
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
App_IC_D_2014-12-21_2015-02-20.csv
App_IC_D_2015-02-21_2015-04-20.csv
App_MC_D_2014-12-21_2015-02-20.csv
App_MC_D_2015-02-21_2015-04-20.csv
CSV file (*.csv)
Open
Cancel

File name: _D_2014-12-21_2015-02-20.csv

Example of CSV file (air-conditioner data) selection
(Output CSV file [App_IC_D_2014-12-21_2015-02-20.csv])

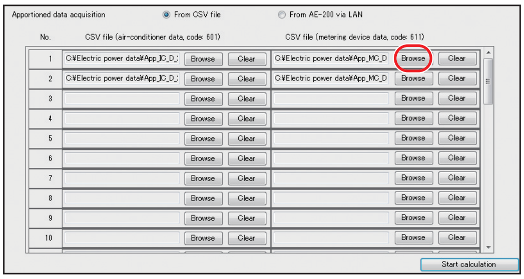
- For CSV data (apportioned results), the \(AE-200 serial number)\“ApportionData”\ folder will be created in the root folder of the USB memory and CSV file will be saved in this folder. Save backup copies of this folder on the PC.

  To check the serial number, touch [🔧] in the top-right corner of the LCD. The serial number will be displayed in the bottom-left corner of the login window.

6. Click [Browse] for the CSV file (metering device data), select the “Metering device” data file for the CSV data (apportioned results) acquired from the AE-200 and then click [Open].

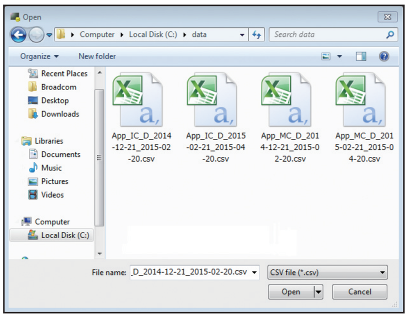
Note

- Refer to Note in procedure 5 for information on the USB memory save destination and the file names.


Apportioned data acquisition
From CSV file
From AE-200 via LAN
No.
CSV file (air-conditioner data, code: 601)
CSV file (metering device data, code: 611)
Browse
Clear
Start calculation

1 C:¥Electric power data¥App_IC_D_ | C:¥Electric power data¥App_MC_D

2 C:¥Electric power data¥App_IC_D_ | C:¥Electric power data¥App_MC_D


Open
Computer ▸ Local Disk (C:) ▸ data
Search data
Organize ▾
New folder
Recent Places
Broadcom
Desktop
Downloads
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
App_IC_D_2014-12-21_2015-02-20.csv
App_IC_D_2015-02-21_2015-04-20.csv
App_MC_D_2014-12-21_2015-02-20.csv
App_MC_D_2015-02-21_2015-04-20.csv
CSV file (*.csv)
Open
Cancel

File name: _D_2014-12-21_2015-02-20.csv

Example of CSV file (metering device data) selection
(Output CSV file [App_IC_D_2014-12-21_2015-02-20.csv])

Note

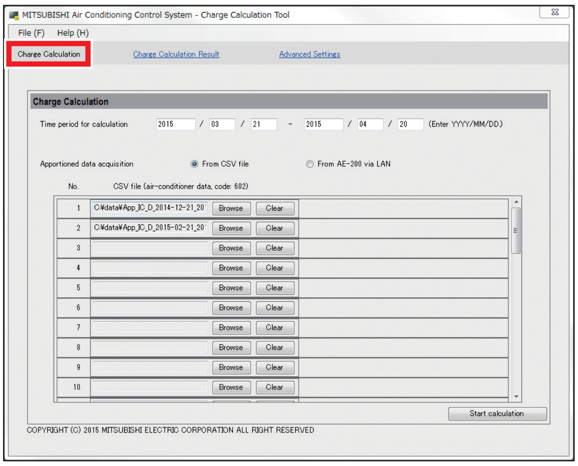
- Register one “Energy management block (tenant)” data file and one “Metering device” data file for each AE-200 unit.
- For each No., register the “Energy management block (tenant)” file and “Metering device” file output by the same AE-200.
- If there are two AE-200 units, register the two files in the order in which they are output.
- Do not register multiple CSV files output from the same AE-200. If multiple files are registered, charges may be calculated higher.
- If there are multiple AE-200 units, the charges will be output in order of registration No.

7. Click [Start calculation].
   The charge calculation results will be displayed. (Refer to section 3-4 “Displaying charge calculation results”.)

[2] Systems where electric energy is entered manually (no-metering-device method)

Procedures

1. Start up the Charge Calculation Tool.
2. Select [Charge Calculation].


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Browse
Clear
Start calculation

Charge Calculation

Time period for calculation 2015 / 03 / 21 - 2015 / 04 / 20 (Enter YYYY/MM/DD)

Apportioned data acquisition ● From CSV file ○ From AE-200 via LAN

No.	CSV file (air-conditioner data, code: 602)
1	C:¥data¥App_IC_D_2014-12-21_20
2	C:¥data¥App_IC_D_2015-02-21_20
3	
4	
5	
6	
7	
8	
9	
10	

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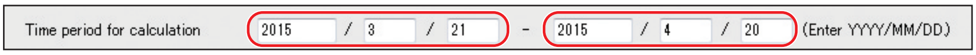
3. In “Time period for calculation”, enter the start date and end date for the time period for which you want to calculate the charges in the respective input fields. (Format: YYYY/MM/DD)

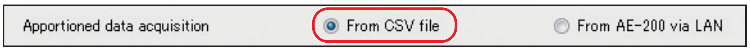


Time period for calculation 2015 / 3 / 21 - 2015 / 4 / 20 (Enter YYYY/MM/DD)

Note

- The Charge Calculation Tool can calculate charges within the date range of the CSV data (apportioned results) output from the AE-200.
  For example, if the CSV data (apportioned results) acquired on the LCD runs from April 1, 2015 to April 30, 2015, the Charge Calculation Tool cannot calculate charges for CSV data outside that range (e.g. March 20, 2015 to April 19, 2015). Consequently, it is recommended that you specify the maximum date range (the previous 62 days) for CSV data (apportioned results) output.
- Refer to section 4-2 “Calculating the charges for 2 months ago or earlier” to calculate charges for data more than 62 days (2 months) previously.

4. Select [From CSV file] as the apportioned data acquisition method in the charge calculation screen.



Apportioned data acquisition ● From CSV file ○ From AE-200 via LAN

5. Click [Browse] for the CSV file (air-conditioner data), select the “Energy management block” data file for the CSV data (apportioned results) acquired from the AE-200 and then click [Open].

- The file names for CSV data (apportioned results) are as shown below.

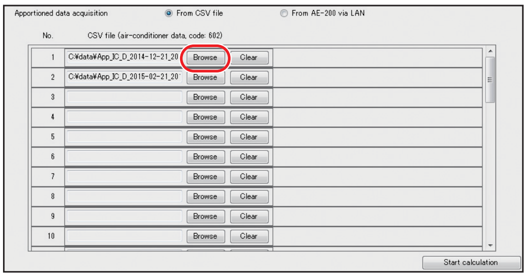
■Energy management block

- 1-day intervals data: “App”_“IC”_D_[start year]-[start month]-[start day]_[end year]-[end month]-[end day].csv

  Example: For data at 1-day intervals with a target period of March 1, 2015 to April 30, 2015
  Energy management block data: App_IC_D_2015-03-01_2015-04-30.csv

Note

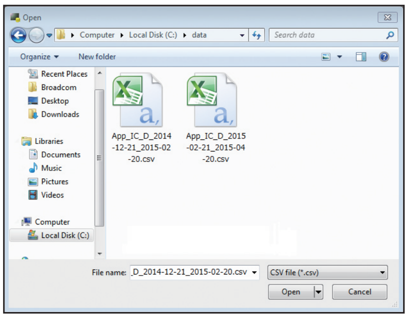
- In the file name, “IC” denotes energy management blocks, “MC” denotes a PI controller, and “D” denotes data at 1-day intervals.



Apportioned data acquisition ● From CSV file ○ From AE-200 via LAN

No.	CSV file (air-conditioner data, code: 602)
1	C:¥data¥App_IC_D_2014-12-21_20
2	C:¥data¥App_IC_D_2015-02-21_20
3	
4	
5	
6	
7	
8	
9	
10	

Browse
Clear
Start calculation



Computer ▸ Local Disk (C:) ▸ data

App_IC_D_2014-12-21_2015-02-20.csv

App_IC_D_2015-02-21_2015-04-20.csv

File name: _D_2014-12-21_2015-02-20.csv

CSV file (*.csv)

Open
Search data
Organize
New folder
Recent Places
Broadcom
Desktop
Downloads
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
Open
Cancel

Example of CSV file (air-conditioner data) selection
(Output CSV file [App_IC_D_2014-12-21_2015-02-20.csv])

Note

- For CSV data (apportioned results), the \(AE-200 serial number)\“ApportionData”\ folder will be created in the root folder of the USB memory and CSV file will be saved in this folder. Save backup copies of this folder on the PC.

  To check the serial number, touch [🔧] in the top right of the LCD. The serial number will be displayed in the bottom left of the login window.
- Register one “Energy management block (tenant)” data file for each AE-200 unit.
- If there are two AE-200 units, register the two files in the order in which they are output.
- Do not register multiple CSV files output from the same AE-200. If multiple files are registered, the charge rates may not be calculated correctly.
- If there are multiple AE-200 units, the charge rates will be calculated in order of registration No.

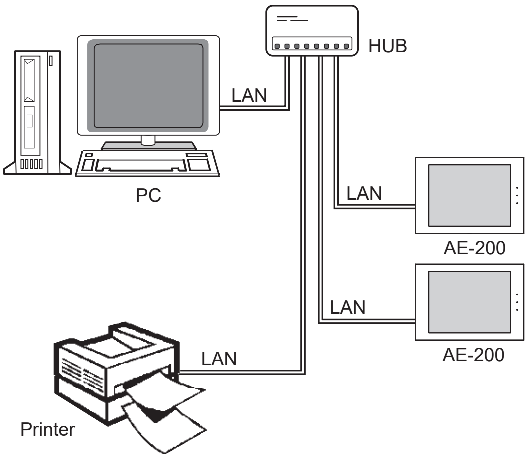
6. Click [Start calculation].
   The charge rates will be displayed. (Refer to section 3-4 “Displaying charge calculation results”.)

3-3. Closing date calculation (automatic output)

This section explains the closing date calculation (automatic output) when the AE-200 is connected to a PC via a LAN.
The AE-200 must be connected to the PC and printer (for printing) via the LAN.

3-3-1. Preparation of the PC

By connecting the AE-200 to the PC (running the Charge Calculation Tool) via a LAN, both “Print” and “CSV output” for the charge calculation results will be enabled.
To print out the data, a printer must be connected via the LAN.



* The AE-50/EW-50 units are omitted in the figure above.

Closing date calculation (automatic output) is only available when connected via a LAN.
The data will be output automatically at 5:00 AM on the day after the “Closing date” set on the Charge Calculation Tool. If output is set to “Daily”, the previous day’s data will be automatically output at 5:00 AM each day.
You can specify “Print”, “CSV output” or both as the output options for the charge calculation results.

Prepare a PC and printer that meet the following criteria:

- The PC must be turned on when the data is automatically output (5:00 AM)
- If login settings are set for the PC, a user must be in logged-in status when the data is automatically output
- The PC must not be in standby or sleep mode when the data is automatically output
- The Charge Calculation Tool must not be launched manually when the data is automatically output
  * The tool starts up automatically.
- The AE-200 must be connected to the PC via a LAN
- If “Print” is selected as the output method, the printer must be turned on when the data is automatically output (5:00 AM)
- If “Print” is selected as the output method, there must be “Default printer” setting in the Windows printer settings.*

* The procedures for setting the printer as the default printer is shown below.

Procedures

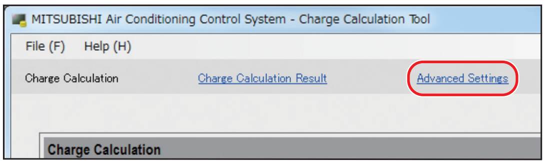
1. Click [Devices and Printers] in the Start menu.
2. Check that [✓] is shown on the printer to be used for printing.
   If the [✓] is shown on other printer, right-click the printer to be used for printing and then click [Set as default printer].

3-3-2. Making the settings for the Charge Calculation Tool

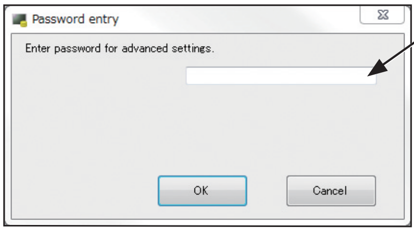
Refer to section 5-1 “Installation procedures of the Charge Calculation Tool” for how to install the Charge Calculation Tool.

Procedures

1. Start up the Charge Calculation Tool.
2. Select [Advanced Settings].


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Charge Calculation

3. Enter the password.

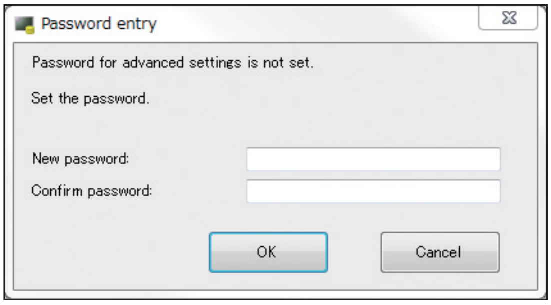

Password entry

Enter password for advanced settings.

Enter the password.

Note

- The “Password first-input window” will appear for the initial setting. Enter the password you wish to use twice. (Make a note of your password so as not to forget it.)
- If you forget your password, contact your dealer.
- To change your password, click [Change password] on the top right of the Advanced Settings screen. When the “Password change window” opens, enter your current password and then enter the new password.
- Your password must consist of at least 8 characters and no more than 20 characters. (The following characters cannot be used: <, >, &, “, or ‘)


Password entry

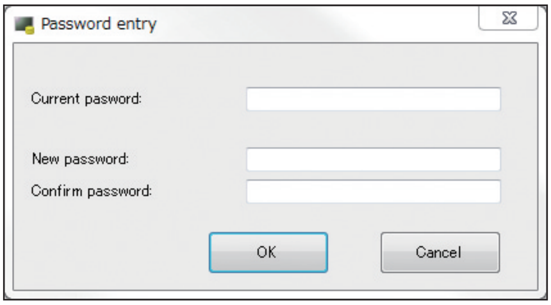
Password for advanced settings is not set.

Set the password.

New password:

Confirm password:

Password first-input window


Password entry

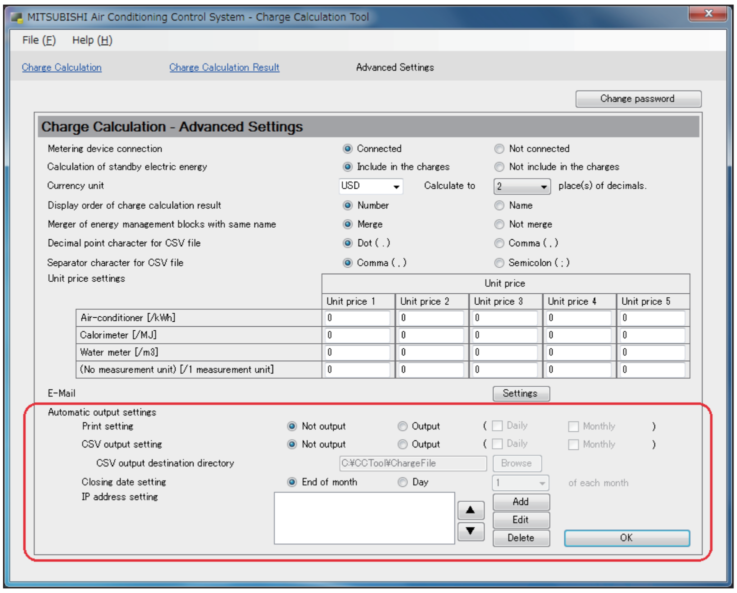
Current pasword:

New password:

Confirm password:

Password change window

4. Make the “Automatic output settings” in the Advanced Settings screen.
   Refer to section 3-3-3 “Settings on the Charge Calculation Tool” for details on how to make the settings.


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Change password

Charge Calculation - Advanced Settings

Metering device connection ● Connected ○ Not connected
Calculation of standby electric energy ● Include in the charges ○ Not include in the charges
Currency unit USD Calculate to 2 place(s) of decimals.
Display order of charge calculation result ● Number ○ Name
Merger of energy management blocks with same name ● Merge ○ Not merge
Decimal point character for CSV file ● Dot (.) ○ Comma (,)
Separator character for CSV file ● Comma (,) ○ Semicolon (;)
Unit price settings

	Unit price				
	Unit price 1	Unit price 2	Unit price 3	Unit price 4	Unit price 5
Air-conditioner [/kWh]	0	0	0	0	0
Calorimeter [/MJ]	0	0	0	0	0
Water meter [/m3]	0	0	0	0	0
(No measurement unit) [/1 measurement unit]	0	0	0	0	0

E-Mail Settings

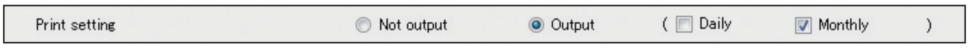
Automatic output settings
Print setting ● Not output ○ Output (☐ Daily ☐ Monthly)
CSV output setting ● Not output ○ Output (☐ Daily ☐ Monthly)
CSV output destination directory C:¥CCTool¥ChargeFile Browse
Closing date setting ● End of month ○ Day 1 of each month
IP address setting

▲
▼
Add
Edit
Delete
OK

5. Click [OK] (the changes will be applied).

3-3-3. Settings on the Charge Calculation Tool

(1) Print setting



Print setting ○ Not output ● Output (☐ Daily ☑ Monthly)

Procedures

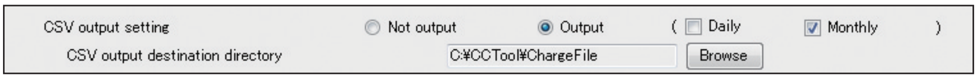
1. Select [Output] in “Print setting”.
2. Check the [Daily] or [Monthly] checkbox or both.
   (In the example shown above, [Monthly] is selected as the print setting.)

Note

Set the PC and printer to meet the following operating environment.

- Settings are required to carry out the closing date calculation (automatic output).
- The PC must be turned on when the data is automatically output (5:00 AM)
- If login settings are specified for the PC, a user must be in logged-in status when the data is automatically output
- The PC must not be in standby or sleep mode when the data is automatically output
- The Charge Calculation Tool must not be launched manually when the data is automatically output
- The AE-200 must be connected to the PC via a LAN
- If “Print” is selected as the output method, the printer must be turned on when the data is automatically output (5:00 AM)
- If “Print” is selected as the output method, there must be “Default printer” setting in the Windows printer settings.

(2) CSV output setting



CSV output setting ○ Not output ● Output (☐ Daily ☑ Monthly)

CSV output destination directory C:¥CCTool¥ChargeFile

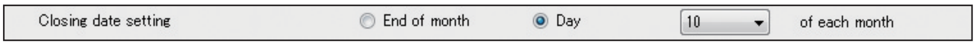
Procedures

1. To save the calculation results as a file, select [Output] in “CSV output setting”.
2. Check the [Daily] or [Monthly] checkbox or both.
3. Click [Browse] in “CSV output destination directory” and select your intended file output destination folder.
   (In the example shown above, [Monthly] is selected as the print setting.)

Note

- Settings are required to carry out the closing date calculation (automatic output).
- When [Output] is selected in “CSV output setting”, the Charge Calculation Tool starts up at the time when the data is automatically output (5:00 AM).
- CSV files will be output to a directory with the closing date (\“year”\“month”\) added to the specified CSV output destination directory.
  Example: When CSV files are output at 5:00 AM on February 1, 2015 (the day after the closing date), the dates on the output files will be the closing date year and month (day).
  → The directory will be “C: \CCTool\ChargeFile\2015\01\”
- The file names for charge calculation results for “Each energy management block (tenant)” will be as follows:
  Daily: “[year][month][day]B.csv” (e.g.: A file output on February 1, 2015 will be output as “20150131B.csv”.)
  Monthly: “[year][month]B.csv” (e.g.: A file output on February 1, 2015 will be output as “201501B.csv”.)
- The file names for charge calculation results for “Each metering device” will be as follows:
  Daily: “[year][month][day]W.csv” (e.g.: A file output on February 1, 2015 will be output as “20150131W.csv”.)
  Monthly: “[year][month]W.csv” (e.g.: A file output on February 1, 2015 will be output as “201501W.csv”.)

(3) Closing date setting (automatic output)



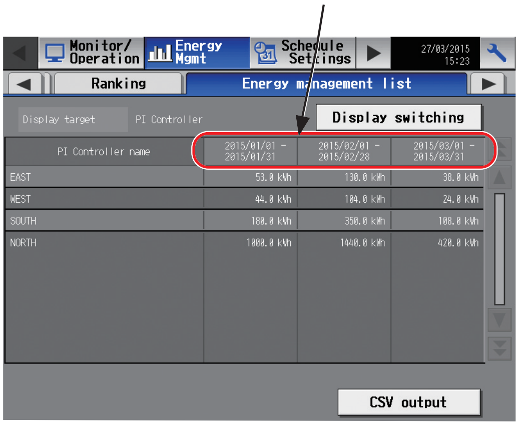
Closing date setting ○ End of month ● Day 10 of each month

Carry out the following procedures to set the date for “Monthly” automatic output in “Closing date setting”.
In this setting, you can set the closing date to output the charge calculation results.
Make sure that this date matches the closing date set on the “Energy management list” on the AE-200.

Procedures

1. Touch [Energy Mgmt] > [Energy management list] on the AE-200’s LCD, and check the display period of electric energy.
2. Set the closing date based on the display period of electric energy.

   Example 1. If the period is “2015/03/01-2015/03/31”, the final day is the last day of the month, so you should select “End of month” as the closing date.
   Example 2. If the period is “2015/03/11-2015/04/10”, you should select “Day (10) of each month” as the closing date.



Display period of electric energy

Display target PI Controller

PI Controller name	2015/01/01 - 2015/01/31	2015/02/01 - 2015/02/28	2015/03/01 - 2015/03/31
EAST	53.0 kWh	130.0 kWh	38.0 kWh
WEST	44.0 kWh	104.0 kWh	24.0 kWh
SOUTH	180.0 kWh	350.0 kWh	108.0 kWh
NORTH	1000.0 kWh	1440.0 kWh	420.0 kWh

- **When the end of the month is selected**

  When the end of the month is selected, the charge calculation results for each month will be output on the 1st of the following month.

  For example, the data output at 5:00 AM on February 1, 2015 will be the charge calculation results for January 1-31, 2015.

- **If another day of each month is selected**

  If you select “Monthly”, click the pull-down menu for “Day” and select a date between 1 and 28 as the desired output date.
  Once you select a date, the charge calculation results for the month preceding the selected date will be output on the day after the selected date.

  For example, if you select monthly output on the 25th on April 1, 2015, the next data output will be at 5:00 AM on April 26, 2015, and the charge calculation results for the period from March 26, 2015 to April 25, 2015 will be output.

Note

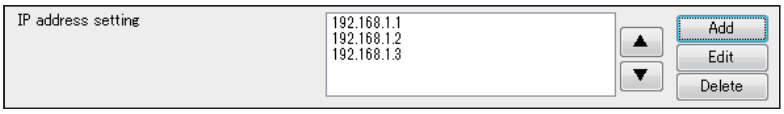
- Settings are required to carry out the closing date calculation (automatic output).
- If [Output] is selected in both printing and CSV output settings, you cannot set separate closing dates for printing and CSV output.
- 29th, 30th or 31st cannot be set as the closing date for every month.
- There are two types of “Closing date”: Calculation on the closing date (automatic output) <set on the Charge Calculation Tool>; or energy management list (monthly display) <set on Initial Setting Tool> shown on the AE-200’s LCD.
- The “Energy management list” is displayed as of the day after the closing date.

(4) IP address setting

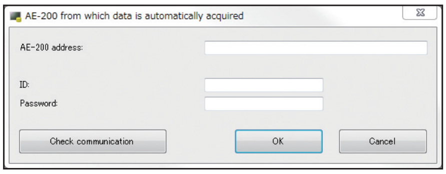
This section explains how to set the IP address used to automatically acquire “Energy management” data and “Metering device” data from the AE-200.

Procedures

1. Click [Add] in the IP address setting.



192.168.1.1
192.168.1.2
192.168.1.3



2. When the “AE-200 from which data is automatically acquired” screen appears, enter the IP address of the AE-200 for which charges will be calculated along with the building manager ID and password.
3. Click [Check communication] and check that the tool can communicate with the AE-200. When the communication is successful, a message “Communication succeeded” will appear.
4. Click [OK] and check that the address has been added in the IP address settings column.
5. If there are multiple AE-200 units for which charges are to be calculated, repeat procedures 1 to 4 above to register all the AE-200 units for which charge calculation is required.

Note

- Settings are required to carry out the closing date calculation (automatic output).
- When [Do not merge] is selected in “Merger of energy management blocks with same name” in the Charge Calculation Tool’s [Advanced Settings], units will be displayed in the “AE-200 No.X + energy management block name” format to distinguish the energy management block names.
  (Here, the “No.” for an AE-200 is its number in this sequence of IP address settings, starting from No.1. You can change the order by selecting the IP address and then clicking the [▲] or [▼] button.)
  (Refer to section 4-1-2 “Charge Calculation Tool settings”.)
  (Example: When the name of the energy management block connected to AE-200 No.1 is “1F tenant”, “AE-200 No.1 1F tenant” will be displayed.)
- Even when “Merge” is selected, the metering device names in the charge calculation results for each metering device will not be merged.
- The charge calculation results for each metering device will be displayed in the “AE-200 No.X + metering device name” format regardless of the setting for merging energy management blocks with the same name.
- To change the settings, select an IP address and click [Edit].

3-4. Displaying charge calculation results

After completing 3-2-3 “Making the settings for the Charge Calculation Tool”, click [Start calculation] in the charge calculation screen to display the charge calculation results screen.

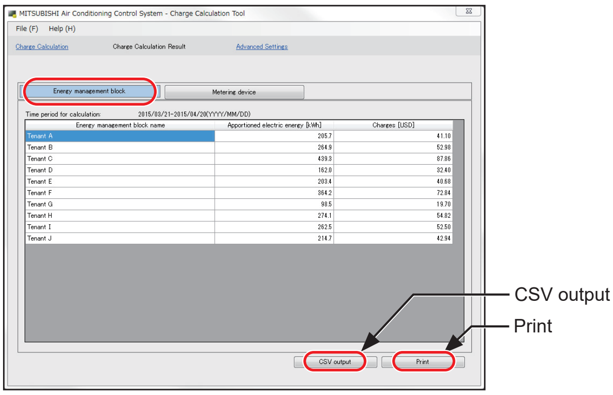
3-4-1. Systems where electric energy is metered (with-metering-device method)

In systems where electric energy is metered (with-metering-device method), the charge calculation results will be displayed both for each energy management block and for each metering device.

Procedures

1. Click [Energy management block] or [Metering device].

When [Energy management block] is selected

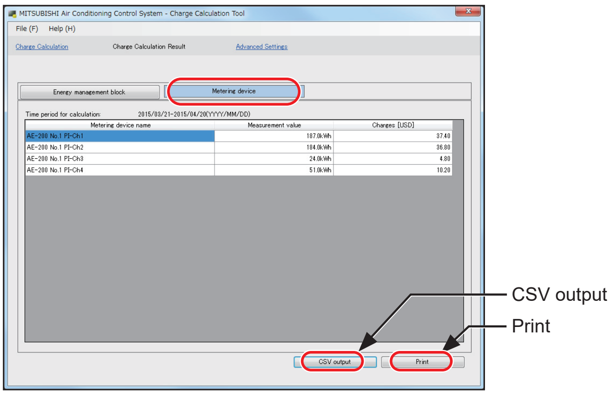


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Energy management block
Metering device
CSV output
Print
CSV output
Print

Time period for calculation: 2015/03/21-2015/04/20(YYYY/MM/DD)

Energy management block name	Apportioned electric energy [kWh]	Charges [USD]
Tenant A	205.7	41.10
Tenant B	264.9	52.98
Tenant C	439.3	87.86
Tenant D	162.0	32.40
Tenant E	203.4	40.68
Tenant F	364.2	72.84
Tenant G	98.5	19.70
Tenant H	274.1	54.82
Tenant I	262.5	52.50
Tenant J	214.7	42.94

When [Metering device] is selected



MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Energy management block
Metering device
CSV output
Print
CSV output
Print

Time period for calculation: 2015/03/21-2015/04/20(YYYY/MM/DD)

Metering device name	Measurement value	Charges [USD]
AE-200 No.1 PI-Ch1	187.0kWh	37.40
AE-200 No.1 PI-Ch2	184.0kWh	36.80
AE-200 No.1 PI-Ch3	24.0kWh	4.80
AE-200 No.1 PI-Ch4	51.0kWh	10.20

2. Click [Print] or [CSV output].

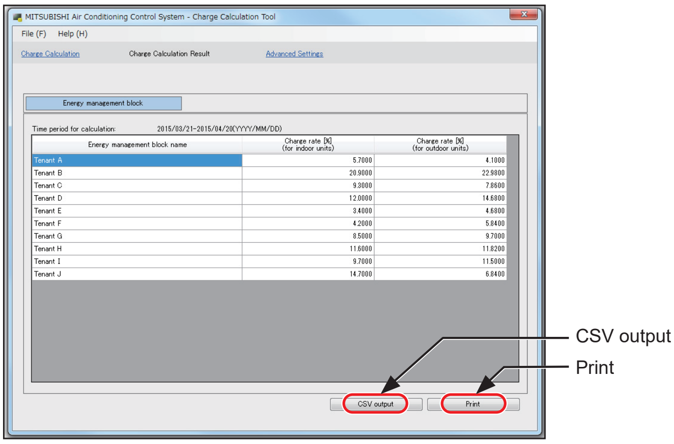
- For printed output
  To print out the charge calculation results, click [Print].
  The results will be printed out on the printer set as the “Default printer”.
- For CSV output
  To output the charge calculation results as a CSV file, click [CSV output].
  When the output destination selection dialog box appears, save the file under a name of your choice.

Important

- When you printed out the results, it is recommended that you also use CSV output to make a backup copy of the calculation results.

3-4-2. Systems where electric energy is entered manually (no-metering-device method)

In systems where electric energy is entered manually (no-metering-device method), the charge rates will be displayed for each energy management block.


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Energy management block
CSV output
Print
CSV output
Print

Time period for calculation: 2015/03/21-2015/04/20(YYYY/MM/DD)

Energy management block name	Charge rate [%] (for indoor units)	Charge rate [%] (for outdoor units)
Tenant A	5.7000	4.1000
Tenant B	20.9000	22.9800
Tenant C	9.3000	7.8600
Tenant D	12.0000	14.6800
Tenant E	3.4000	4.6800
Tenant F	4.2000	5.8400
Tenant G	8.5000	9.7000
Tenant H	11.6000	11.8200
Tenant I	9.7000	11.5000
Tenant J	14.7000	6.8400

Procedures

1. Click [Print] or [CSV output].
   - For printed output
     To print out the charge calculation results, click [Print].
     The results will be printed out on the printer set as the “Default printer”.
   - For CSV output
     To output the charge calculation results as a CSV file, click [CSV output].
     When the output destination selection dialog box appears, save the file under a name of your choice.

Important

- When you printed out the results, it is recommended that you also use CSV output to make a backup copy of the charge rates.

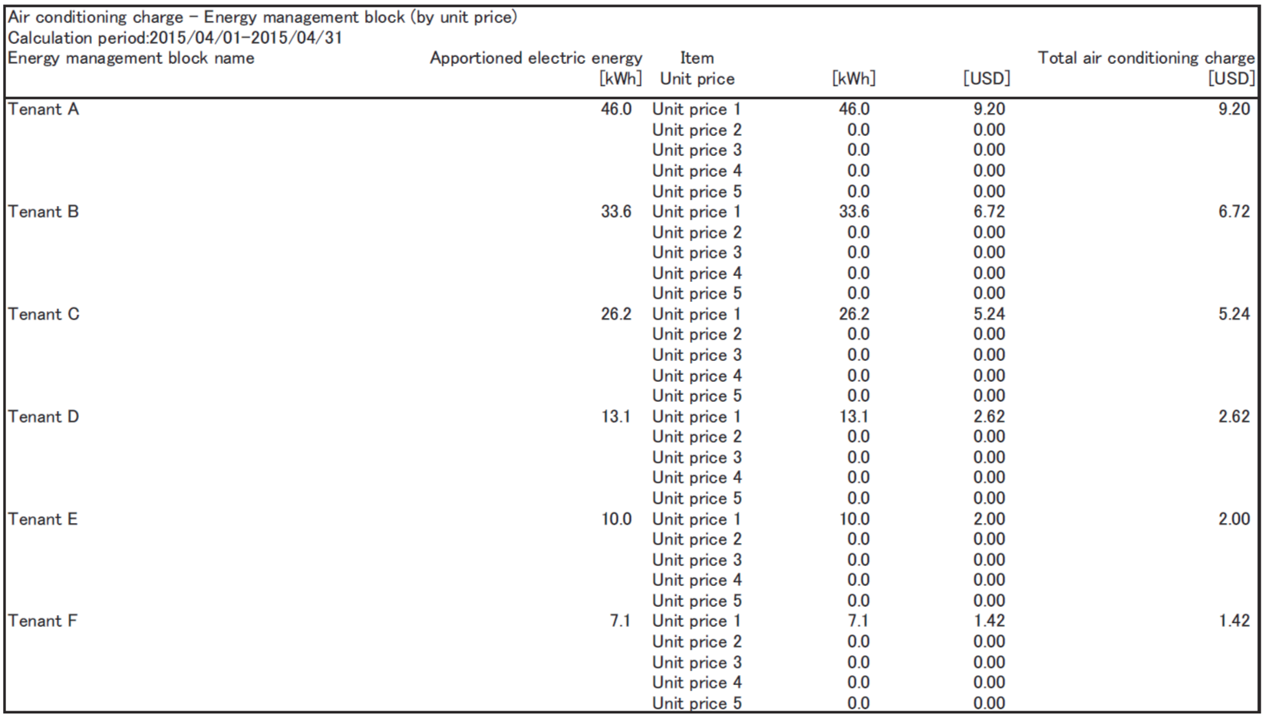
3-5. Printing the charge calculation results

3-5-1. Systems where electric energy is metered (with-metering-device method)

In systems where electric energy is metered (with-metering-device method), the charge calculation results will be printed out both for each energy management block and for each metering device.

[1] Example of printed results for each energy management block

(Display order of charge calculation result: Number; Merger of energy management blocks with same name: Merge)

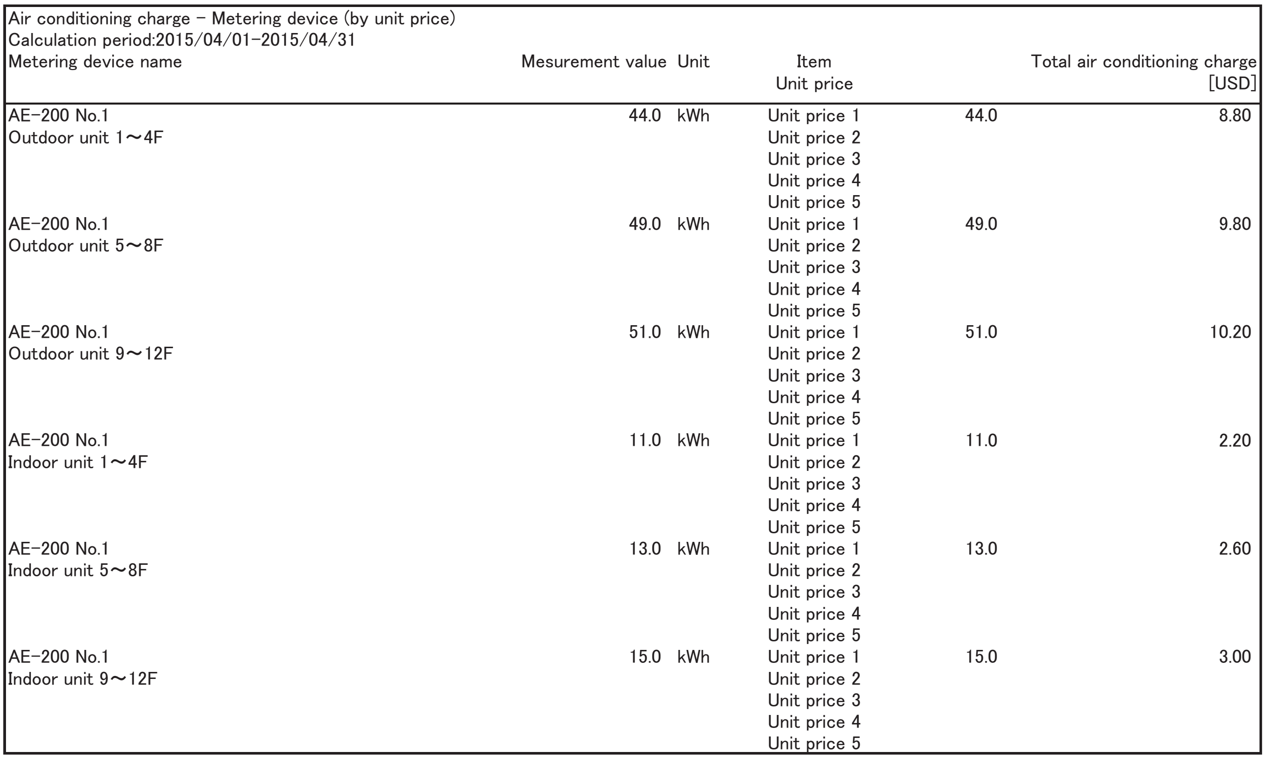


Air conditioning charge − Energy management block (by unit price)
Calculation period:2015/04/01−2015/04/31

Energy management block name	Apportioned electric energy [kWh]	Item Unit price	[kWh]	[USD]	Total air conditioning charge [USD]
Tenant A	46.0	Unit price 1	46.0	9.20	9.20
		Unit price 2	0.0	0.00	
		Unit price 3	0.0	0.00	
		Unit price 4	0.0	0.00	
		Unit price 5	0.0	0.00	
Tenant B	33.6	Unit price 1	33.6	6.72	6.72
		Unit price 2	0.0	0.00	
		Unit price 3	0.0	0.00	
		Unit price 4	0.0	0.00	
		Unit price 5	0.0	0.00	
Tenant C	26.2	Unit price 1	26.2	5.24	5.24
		Unit price 2	0.0	0.00	
		Unit price 3	0.0	0.00	
		Unit price 4	0.0	0.00	
		Unit price 5	0.0	0.00	
Tenant D	13.1	Unit price 1	13.1	2.62	2.62
		Unit price 2	0.0	0.00	
		Unit price 3	0.0	0.00	
		Unit price 4	0.0	0.00	
		Unit price 5	0.0	0.00	
Tenant E	10.0	Unit price 1	10.0	2.00	2.00
		Unit price 2	0.0	0.00	
		Unit price 3	0.0	0.00	
		Unit price 4	0.0	0.00	
		Unit price 5	0.0	0.00	
Tenant F	7.1	Unit price 1	7.1	1.42	1.42
		Unit price 2	0.0	0.00	
		Unit price 3	0.0	0.00	
		Unit price 4	0.0	0.00	
		Unit price 5	0.0	0.00	

[2] Example of printed results for each metering device

(Display order of charge calculation result: Number)



Air conditioning charge − Metering device (by unit price)
Calculation period:2015/04/01−2015/04/31

Metering device name	Mesurement value	Unit	Item Unit price		Total air conditioning charge [USD]
AE−200 No.1 Outdoor unit 1～4F	44.0	kWh	Unit price 1	44.0	8.80
			Unit price 2		
			Unit price 3		
			Unit price 4		
			Unit price 5		
AE−200 No.1 Outdoor unit 5～8F	49.0	kWh	Unit price 1	49.0	9.80
			Unit price 2		
			Unit price 3		
			Unit price 4		
			Unit price 5		
AE−200 No.1 Outdoor unit 9～12F	51.0	kWh	Unit price 1	51.0	10.20
			Unit price 2		
			Unit price 3		
			Unit price 4		
			Unit price 5		
AE−200 No.1 Indoor unit 1～4F	11.0	kWh	Unit price 1	11.0	2.20
			Unit price 2		
			Unit price 3		
			Unit price 4		
			Unit price 5		
AE−200 No.1 Indoor unit 5～8F	13.0	kWh	Unit price 1	13.0	2.60
			Unit price 2		
			Unit price 3		
			Unit price 4		
			Unit price 5		
AE−200 No.1 Indoor unit 9～12F	15.0	kWh	Unit price 1	15.0	3.00
			Unit price 2		
			Unit price 3		
			Unit price 4		
			Unit price 5		

3-5-2. Systems where electric energy is entered manually (no-metering-device method)

In systems where electric energy is entered manually (no-metering-device method), the charge rates will only be printed out for each energy management block.

[1] Example of printed results for each energy management block

(Display order of charge calculation result: Number; Merger of energy management blocks with same name: Merge)

Air conditioning charge – Energy management block (by unit price)
Calculation period:2015/04/01–2015/04/31

Energy management block name	Apportionment Parameter (inclusive sum)	Item Unit price	Apportionment Parameter (for indoor unit)	Charge rate[%] (for indoor unit)	Apportionment Parameter (for outdoor unit)	Charge rate[%] (for outdoor unit)
Tenant A	42.0	Unit price 1	23.3	50.9847	18.7	21.9741
		Unit price 2	0.0		0.0	
		Unit price 3	0.0		0.0	
		Unit price 4	0.0		0.0	
		Unit price 5	0.0		0.0	
Tenant B	29.6	Unit price 1	10.9	23.8512	18.7	21.9741
		Unit price 2	0.0		0.0	
		Unit price 3	0.0		0.0	
		Unit price 4	0.0		0.0	
		Unit price 5	0.0		0.0	
Tenant C	23.6	Unit price 1	5.4	11.8162	18.2	21.3866
		Unit price 2	0.0		0.0	
		Unit price 3	0.0		0.0	
		Unit price 4	0.0		0.0	
		Unit price 5	0.0		0.0	
Tenant D	11.8	Unit price 1	2.7	5.9081	18.2	21.3866
		Unit price 2	0.0		0.0	
		Unit price 3	0.0		0.0	
		Unit price 4	0.0		0.0	
		Unit price 5	0.0		0.0	
Tenant E	8.8	Unit price 1	2.0	4.3764	6.8	7.9906
		Unit price 2	0.0		0.0	
		Unit price 3	0.0		0.0	
		Unit price 4	0.0		0.0	
		Unit price 5	0.0		0.0	
Tenant F	5.9	Unit price 1	1.4	3.0635	4.5	5.2879
		Unit price 2	0.0		0.0	
		Unit price 3	0.0		0.0	
		Unit price 4	0.0		0.0	
		Unit price 5	0.0		0.0	

* In systems where electric energy is entered manually (no-metering-device method), the charge rates [%] will be output, not the electric energy.
The respective total percentage of [Charge rate[%] (for indoor unit)] and [Charge rate[%] (for outdoor unit)] will be 100%. (If there are multiple connected AE-200 units, the total for all the AE-200 units will be 100%.)

* If the electric energy is metered individually for indoor units and outdoor units, calculate the charges using the electric energy for outdoor units and [Charge rate[%] (for outdoor unit)], and the electric energy for indoor units and [Charge rate[%] (for indoor unit)].
If the electric energy is metered for indoor units or for indoor and outdoor units, calculate the charges using the electric energy and [Charge rate[%] (for outdoor unit)].

* Of the data shown, those that should be used are [Charge rate[%] (for indoor unit)] and [Charge rate[%] (for outdoor unit)]. The data in Apportionment Parameter (inclusive sum), Apportionment Parameter (for indoor unit) and Apportionment Parameter (for outdoor unit) will not be used. (These values are for reference only.)

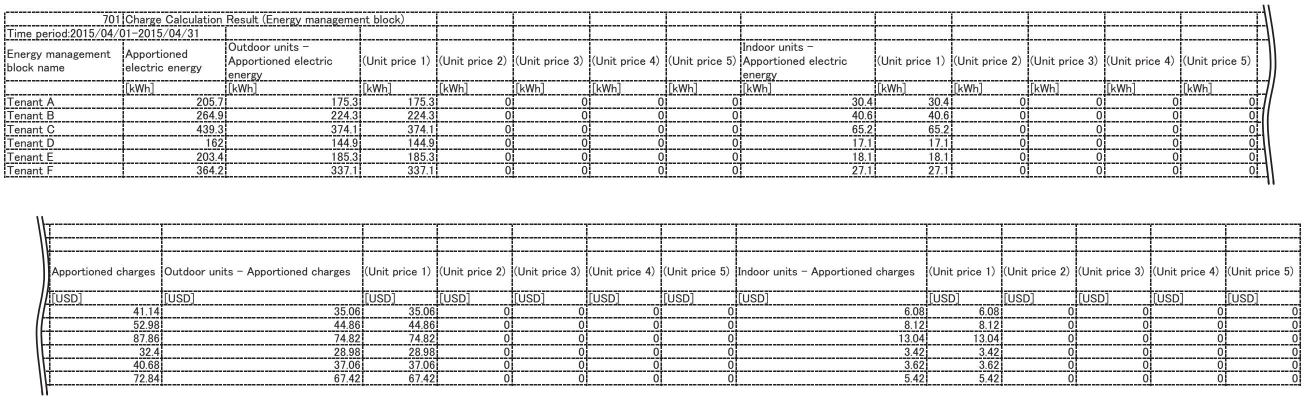
3-6. Examples of charge calculation results CSV output

3-6-1. Systems where electric energy is metered (with-metering-device method)

In systems where electric energy is metered (with-metering-device method), CSV files will be output both for each energy management block and for each metering device.

[1] Example of CSV output results for each energy management block

(Display order of charge calculation result: Number; Merger of energy management blocks with same name: Merge)

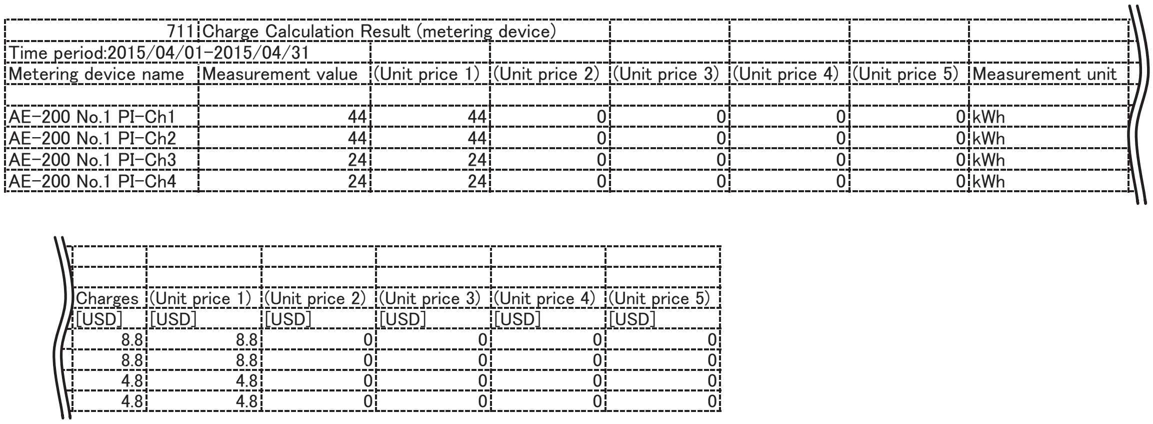


701	Charge Calculation Result (Energy management block)												
Time period:2015/04/01−2015/04/31													
Energy management block name	Apportioned electric energy	Outdoor units − Apportioned electric energy	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)	Indoor units − Apportioned electric energy	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)
	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]	[kWh]
Tenant A	205.7	175.3	175.3	0	0	0	0	30.4	30.4	0	0	0	0
Tenant B	264.9	224.3	224.3	0	0	0	0	40.6	40.6	0	0	0	0
Tenant C	439.3	374.1	374.1	0	0	0	0	65.2	65.2	0	0	0	0
Tenant D	162	144.9	144.9	0	0	0	0	17.1	17.1	0	0	0	0
Tenant E	203.4	185.3	185.3	0	0	0	0	18.1	18.1	0	0	0	0
Tenant F	364.2	337.1	337.1	0	0	0	0	27.1	27.1	0	0	0	0

Apportioned charges	Outdoor units − Apportioned charges	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)	Indoor units − Apportioned charges	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)
[USD]	[USD]	[USD]	[USD]	[USD]	[USD]	[USD]	[USD]	[USD]	[USD]	[USD]	[USD]	[USD]
41.14	35.06	35.06	0	0	0	0	6.08	6.08	0	0	0	0
52.98	44.86	44.86	0	0	0	0	8.12	8.12	0	0	0	0
87.86	74.82	74.82	0	0	0	0	13.04	13.04	0	0	0	0
32.4	28.98	28.98	0	0	0	0	3.42	3.42	0	0	0	0
40.68	37.06	37.06	0	0	0	0	3.62	3.62	0	0	0	0
72.84	67.42	67.42	0	0	0	0	5.42	5.42	0	0	0	0

[2] Example of CSV output results for each metering device

(Display order of charge calculation result: Number)



711	Charge Calculation Result (metering device)						
Time period:2015/04/01−2015/04/31							
Metering device name	Measurement value	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)	Measurement unit
AE−200 No.1 PI−Ch1	44	44	0	0	0	0	kWh
AE−200 No.1 PI−Ch2	44	44	0	0	0	0	kWh
AE−200 No.1 PI−Ch3	24	24	0	0	0	0	kWh
AE−200 No.1 PI−Ch4	24	24	0	0	0	0	kWh

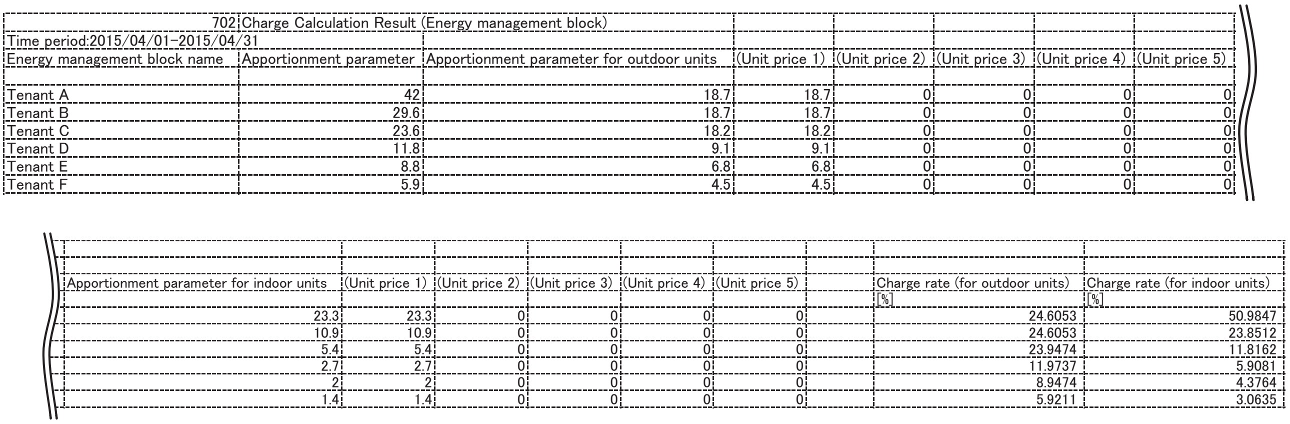
Charges	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)
[USD]	[USD]	[USD]	[USD]	[USD]	[USD]
8.8	8.8	0	0	0	0
8.8	8.8	0	0	0	0
4.8	4.8	0	0	0	0
4.8	4.8	0	0	0	0

3-6-2. Systems where electric energy is entered manually (no-metering-device method)

In systems where electric energy is entered manually (no-metering-device method), the charge rates will only be output for each energy management block.

[1] Example of CSV output results for each energy management block

(Display order of charge calculation result: Number; Merger of energy management blocks with same name: Merge)



702	Charge Calculation Result (Energy management block)															
Time period:2015/04/01–2015/04/31																
Energy management block name	Apportionment parameter	Apportionment parameter for outdoor units	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)	Apportionment parameter for indoor units	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)		Charge rate (for outdoor units)	Charge rate (for indoor units)
															[%]	[%]
Tenant A	42	18.7	18.7	0	0	0	0	23.3	23.3	0	0	0	0		24.6053	50.9847
Tenant B	29.6	18.7	18.7	0	0	0	0	10.9	10.9	0	0	0	0		24.6053	23.8512
Tenant C	23.6	18.2	18.2	0	0	0	0	5.4	5.4	0	0	0	0		23.9474	11.8162
Tenant D	11.8	9.1	9.1	0	0	0	0	2.7	2.7	0	0	0	0		11.9737	5.9081
Tenant E	8.8	6.8	6.8	0	0	0	0	2	2	0	0	0	0		8.9474	4.3764
Tenant F	5.9	4.5	4.5	0	0	0	0	1.4	1.4	0	0	0	0		5.9211	3.0635

* In systems where electric energy is entered manually (no-metering-device method), the charge rates [%] will be output, not the electric energy.
The respective total percentage of [Charge rate[%] (for indoor unit)] and [Charge rate[%] (for outdoor unit)] will be 100%. (If there are multiple connected AE-200 units, the total for all the AE-200 units will be 100%.)

* If the electric energy is metered individually for indoor units and outdoor units, calculate the charges using the electric energy for outdoor units and [Charge rate[%] (for outdoor unit)], and the electric energy for indoor units and [Charge rate[%] (for indoor unit)].
If the electric energy is metered for indoor units or for indoor and outdoor units, calculate the charges using the electric energy and [Charge rate[%] (for outdoor unit)].

* Of the data shown, those that should be used are [Charge rate[%] (for indoor unit)] and [Charge rate[%] (for outdoor unit)]. The data in Apportionment Parameter (inclusive sum), Apportionment Parameter (for indoor unit) and Apportionment Parameter (for outdoor unit) will not be used. (These values are for reference only.)

4. Practical operations

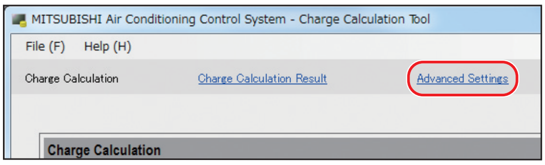
4-1. Settings for the Charge Calculation Tool

4-1-1. Making the settings for the Charge Calculation Tool

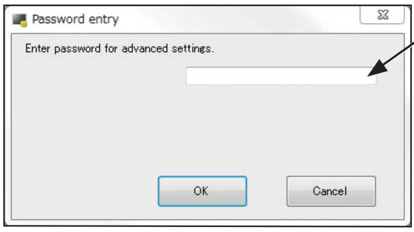
Make initial settings for the Charge Calculation Tool.

Procedures

1. Start up the Charge Calculation Tool.
2. Select [Advanced Settings].


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Charge Calculation

3. Enter the password.

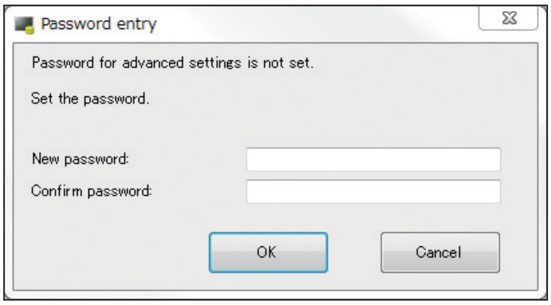

Password entry
OK
Cancel

Enter password for advanced settings.

Enter the password.

Note

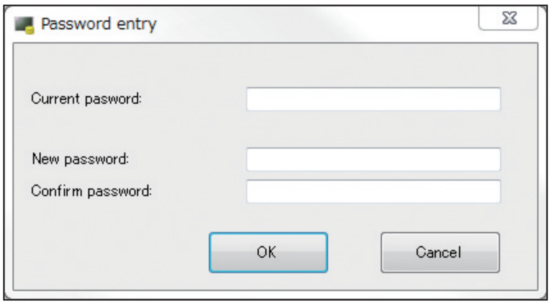
- The “Password first-input window” will appear for the initial setting. Enter the password twice. (Make a note of your password so as not to forget it.)
- If you forget your password, contact your dealer.
- To change your password, click [Change password] on the top right of the Advanced Settings screen. When the “Password change window” opens, enter your current password and then enter the new password.
- Your password must consist of at least 8 characters and no more than 20 characters. (The following characters cannot be used: <, >, &, “, or ‘)


Password entry
New password:
Confirm password:
OK
Cancel

Password for advanced settings is not set.

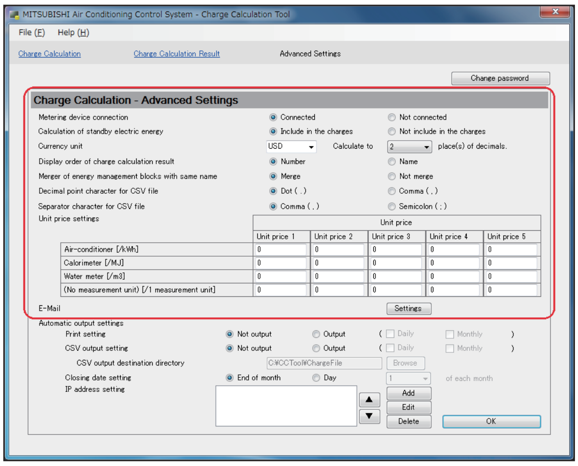
Set the password.

Password first-input window


Password entry
Current pasword:
New password:
Confirm password:
OK
Cancel

Password change window

4. Make the advanced settings for the charge calculation.


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Change password
Settings
Browse
Add
Edit
Delete
OK

Charge Calculation - Advanced Settings

Metering device connection ● Connected ○ Not connected

Calculation of standby electric energy ● Include in the charges ○ Not include in the charges

Currency unit USD Calculate to 2 place(s) of decimals.

Display order of charge calculation result ● Number ○ Name

Merger of energy management blocks with same name ● Merge ○ Not merge

Decimal point character for CSV file ● Dot (.) ○ Comma (,)

Separator character for CSV file ● Comma (,) ○ Semicolon (;)

Unit price settings

	Unit price				
	Unit price 1	Unit price 2	Unit price 3	Unit price 4	Unit price 5
Air-conditioner [/kWh]	0	0	0	0	0
Calorimeter [/MJ]	0	0	0	0	0
Water meter [/m3]	0	0	0	0	0
(No measurement unit) [/1 measurement unit]	0	0	0	0	0

E-Mail

Automatic output settings

Print setting ● Not output ○ Output (☐ Daily ☐ Monthly)

CSV output setting ● Not output ○ Output (☐ Daily ☐ Monthly)

CSV output destination directory C:¥CCTool¥ChargeFile

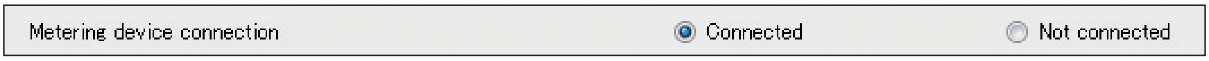
Closing date setting ● End of month ○ Day 1 of each month

IP address setting

4-1-2. Charge Calculation Tool settings

(1) Metering device connection (Connected/Not connected)

Set whether or not a metering device (the PI controller connected with the electricity meter used for the apportioned electricity billing function) is connected. When [Not connected] is selected, the charge rate [%] will be output instead of the apportioned electric energy [kWh].



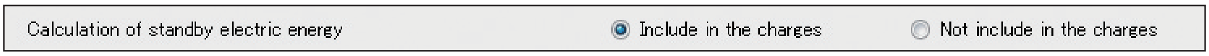
Metering device connection ● Connected ○ Not connected

Important

- When multiple AE-200 units are connected, make the same [Use]/[Non-use] setting on the [Billing Function Settings] > “Apportioning with metering device” screen on each AE-200 unit (Initial Setting Tool).
  If the settings are not the same, the following error message will appear:
  “Metering device connection settings (connection or non-connection) on the Charge Calculation Tool and the AE-200 do not match. Check the [Metering device connection] setting on the Advanced Settings screen, and check for proper AE-200 billing function settings.”

(2) Calculation of standby electric energy (Include in the charges/Not include in the charges)

Make the setting whether to include the standby electric energy for indoor units or outdoor units in the invoice issued to the tenant.
This setting is not required in systems where the electric energy is entered manually (no-metering-device method).



Calculation of standby electric energy ● Include in the charges ○ Not include in the charges

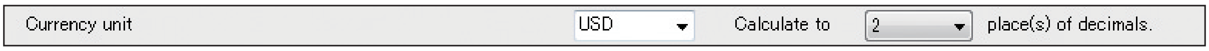
Procedures

1. Select [Include in the charges] or [Not include in the charges].

Note

- Refer to section 6-7-1 “Billing function settings” for how to apportion the standby electric energy and the invoice.

(3) Currency unit



Currency unit USD Calculate to 2 place(s) of decimals.

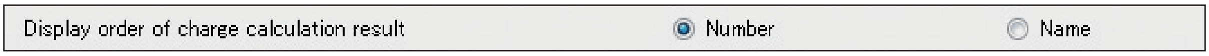
Procedures

1. Set a currency unit.

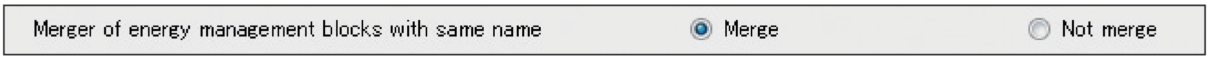
* The total charge for each energy management block (tenant) per unit price will be rounded down to the specified number of decimal places or less. (Between 0 and 4 decimal places can be specified.)
For example, if “2 decimal places” is specified and the calculation result is $123.456, the charge will be $123.45.

(4) Display order of charge calculation result (Number/Name), Merger of energy management blocks with same name (Merge/Not merge)

Make the setting for the output (printout and CSV file) order.



Display order of charge calculation result ● Number ○ Name



Merger of energy management blocks with same name ● Merge ○ Not merge

1) Display order of charge calculation result

Procedures

1. Select [Number] or [Name].
   The display order of the energy management block names in the charge calculation result will be changed.
   - If “Number” is selected, it will be displayed in order of the energy management block numbers set on the Initial Setting Tool.
   - If “Name” is selected, it will be displayed in order of the energy management block names.

Note

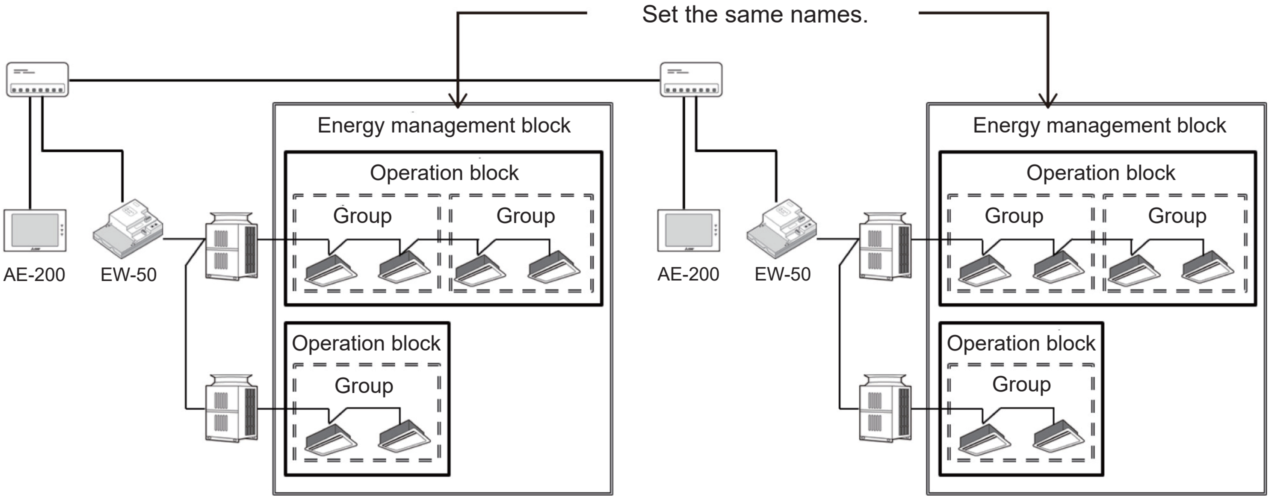
- If you want to display in order of names, it is recommended that you add a number or alphabetic letter at the beginning of the energy management block (tenant) names so that they appear in the desired order.

2) Merger of energy management blocks with same name

Procedures

1. Select [Merge] or [Not merge].
   When multiple AE-200 units are connected and you want to merge the energy management blocks with the same name on each AE-200 and output merged totals for the charge calculation results or charge rates, select [Merge].

   When multiple AE-200 units are used for the same tenant
   When multiple AE-200 units are used for the same tenant, you can merge the charge calculation results or the charge rate by setting the same energy management block name on the Charge Calculation Tool for each AE-200.

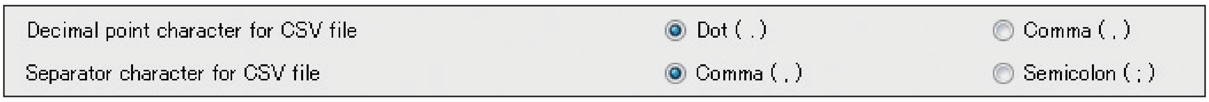


① If the energy management blocks (tenants) are same, set the same name.

② On the [Unit Settings] > [Energy Management Block] screen, set “Merge” for the energy management blocks (tenants) with same name.

Display order: Number	Merge	The output order for each AE-200 will be in order of the AE-200 IP addresses. The output order within each AE-200 will be in order of the energy management block numbers registered on the Initial Setting Tool. The energy management blocks will be merged in order of AE-200 numbers.
	Not merge	The output order for each AE-200 will be in order of the AE-200 IP addresses. The output order within each AE-200 will be in order of the energy management block numbers registered on the Initial Setting Tool.
Display order: Name	Merge	Will be output in order of energy management block names. The energy management blocks will be merged in order of AE-200 numbers.
	Not merge	The output order for each AE-200 will be in order of the AE-200 IP addresses. The output order within each AE-200 will be in order of energy management block names.

(5) Decimal point character for CSV file (Dot/Comma), Separator character for CSV file (Comma/Semicolon)



Decimal point character for CSV file	● Dot (.)	○ Comma (,)
Separator character for CSV file	● Comma (,)	○ Semicolon (;)

Procedures

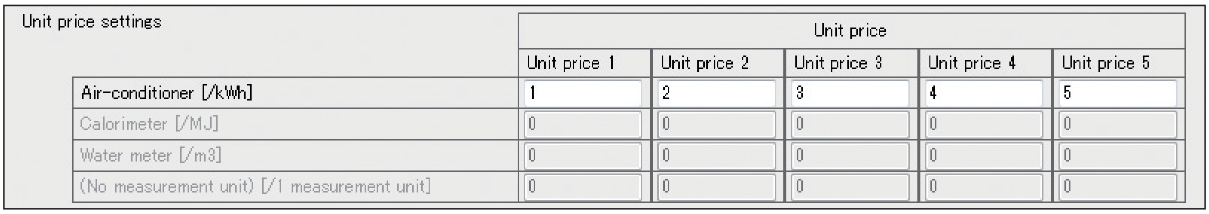
1. Set the format of the CSV file (apportioned results, charges calculation results from the Charge Calculation Tool).

Important

- This setting must be the same with the “Decimal point character for CSV file” and “Separator character for CSV file” settings on the [Basic Settings] > [Basic System Settings] screen on the Initial Setting Tool. If the settings are not the same, an error message “The CSV file format is not appropriate. Check the directory from which the CSV file is acquired.” will appear.
- When multiple AE-200 units are connected, make the same settings for all of them.
- If the settings on the AE-200 and the Charge Calculation Tool are not the same, the charges will not be properly calculated.

(6) Unit price settings (Charge rate settings)

In systems where electric energy is metered (with-metering-device method), set the Unit prices 1 to 5 per 1 [kWh]. “Calorimeter [/MJ]”, “Water meter [/m3]” and “(No measurement unit) [/1 measurement unit]” can also be set.
In systems where the electric energy is entered manually (no-metering-device method), set the charge rate.
On the Initial Setting Tool, unit prices 1 to 5 can be assigned to periods such as days of the week and seasons.



Unit price settings

	Unit price				
	Unit price 1	Unit price 2	Unit price 3	Unit price 4	Unit price 5
Air-conditioner [/kWh]	1	2	3	4	5
Calorimeter [/MJ]	0	0	0	0	0
Water meter [/m3]	0	0	0	0	0
(No measurement unit) [/1 measurement unit]	0	0	0	0	0

Procedures

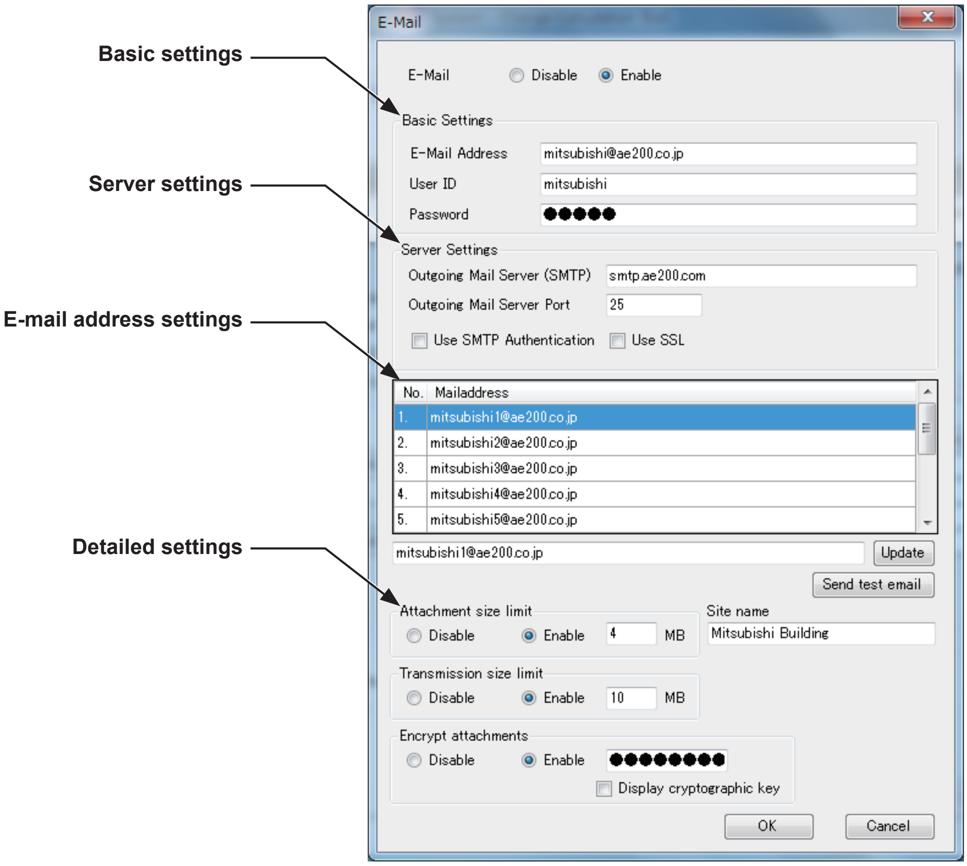
1. Set the unit price for air-conditioner [/kWh].
(When a calorimeter or water meter is connected to the PI controller, the unit price can also be set for “Calorimeter [/MJ]”, “Water meter [/m3]” and “(No measurement unit) [/1 measurement unit]”.)

Important

- Change the settings for each time period on the Initial Setting Tool.
- Note that even when time periods are set, the charges will not be calculated correctly if no unit price is entered.
- For systems where the electric energy is entered manually (no-metering-device method), set the electricity charge rate in unit prices 1 to 5.
E.g.: When the nighttime rate is one-third of the daytime rate
Set unit price 1 (nighttime) to “1” and unit price 2 (daytime) to “3”.
Set the unit price time periods on the Initial Setting Tool.

(7) E-Mail settings

This function automatically acquires the apportioned power data from each centralized controller at 5 a.m. (Settings must be made.) and sends an e-mail at 6 a.m. every day.
The e-mail is sent from a PC. Therefore, the PC must be up and running while this function is used.
To display the E-Mail settings window, click [Settings] in the E-Mail window.



E-Mail ○ Disable ● Enable

Basic Settings
E-Mail Address: mitsubishi@ae200.co.jp
User ID: mitsubishi
Password: ●●●●●

Server Settings
Outgoing Mail Server (SMTP): smtp.ae200.com
Outgoing Mail Server Port: 25
☐ Use SMTP Authentication ☐ Use SSL

No.	Mailaddress
1.	mitsubishi1@ae200.co.jp
2.	mitsubishi2@ae200.co.jp
3.	mitsubishi3@ae200.co.jp
4.	mitsubishi4@ae200.co.jp
5.	mitsubishi5@ae200.co.jp

mitsubishi1@ae200.co.jp

Attachment size limit: ○ Disable ● Enable 4 MB
Site name: Mitsubishi Building
Transmission size limit: ○ Disable ● Enable 10 MB
Encrypt attachments: ○ Disable ● Enable ●●●●●●●●
☐ Display cryptographic key

Procedures

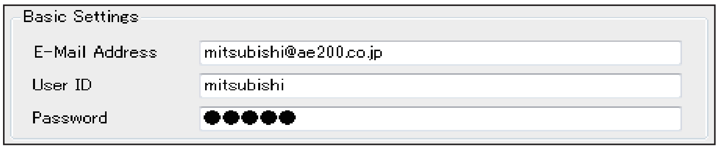
1. E-Mail setting

Select “Enable” to apply the items set in the basic settings, server settings, e-mail address settings, and detailed settings. Select “Disable” to disable them.

Important

- When “E-Mail” is enabled, set “Print setting” to “Output” and check the [Daily] checkbox referring to section 3-3-3 “Settings on the Charge Calculation Tool” (1) “Print setting”. Otherwise the billing data attached to an e-mail cannot be sent.

2. Basic settings



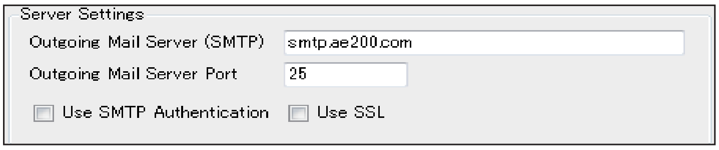
Basic Settings
E-Mail Address: mitsubishi@ae200.co.jp
User ID: mitsubishi
Password: ●●●●●

Enter the e-mail information provided by the Internet Service Provider (ISP) or the system administrator.

Note

- A contract with the ISP is required to send e-mail via an ISP.

3. Server settings



Server Settings

Outgoing Mail Server (SMTP): smtp.ae200.com

Outgoing Mail Server Port: 25

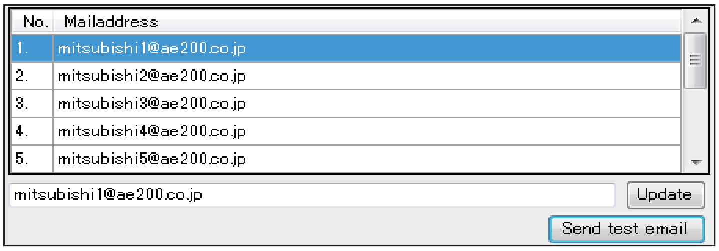
☐ Use SMTP Authentication ☐ Use SSL

Enter the e-mail server information provided by the ISP or the system administrator.
Either the IP address or the host name (server name) can be entered in the [Outgoing Mail Server (SMTP)].

Note

- The port number of the Outgoing Mail Server (SMTP) can be changed. (Factory setting: 25) However, the Outgoing Mail Server whose port number is 465 cannot be used.
- When “587” is entered in the [Port] field, make sure to check the checkbox next to [Use SMTP Authentication].
- To encrypt an e-mail to be sent, check the [Use SSL] checkbox. SSL used in this function is TLS, not SMTP OVER SSL.

4. E-mail address settings



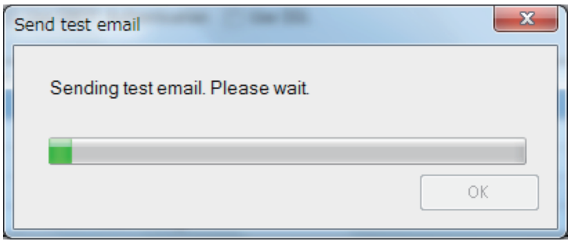
No.	Mailaddress
1.	mitsubishi1@ae200.co.jp
2.	mitsubishi2@ae200.co.jp
3.	mitsubishi3@ae200.co.jp
4.	mitsubishi4@ae200.co.jp
5.	mitsubishi5@ae200.co.jp

mitsubishi1@ae200.co.jp

Up to 10 addresses can be set as the destinations of the automatic e-mail sending function.
Click the line of the address to be set or changed, enter the desired address, and click [Update].
To delete the address, click the line of the address to be deleted, delete the address, and click [Update].
Click [Send test email] to send a test e-mail to the specified addresses.

Note

- Make sure to enable the “E-Mail” setting to enable the “Send test email” function.



Send test email

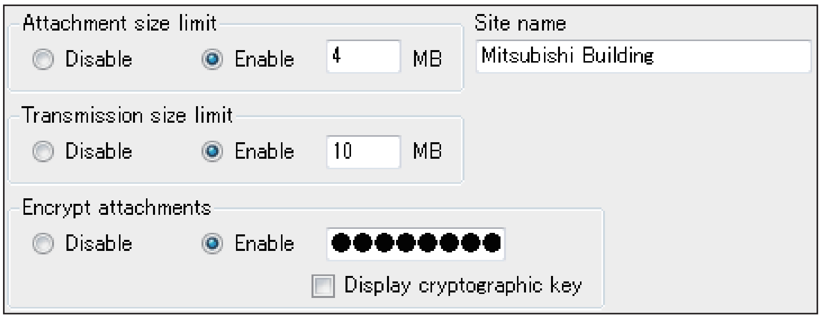
Sending test email. Please wait.

Check that the e-mail is received successfully at the specified addresses.
If the e-mail has not been received, failure may have occurred in any of the e-mail settings (basic settings, server settings (of the sender), or e-mail address settings), the Internet environment, or the server settings (of the receiver).

The e-mail is sent in the following format.

Title	Test e-mail from the Charge Calculation Tool
Text	This email was automatically sent by the email send function of the Charge Calculation Tool. Please do not reply directly to this email

5. Detailed setting



Attachment size limit
○ Disable ● Enable 4 MB

Site name
Mitsubishi Building

Transmission size limit
○ Disable ● Enable 10 MB

Encrypt attachments
○ Disable ● Enable ●●●●●●●●
☐ Display cryptographic key

① Attachment size limit

Select “Disable” not to limit the size of the file that can be attached to one e-mail. To set the upper limit, select “Enable,” and enter the upper limit value. (Minimum setting value: 1 MB)
Consult your ISP or system administrator for the available upper limit value.

② Transmission size limit

Select “Disable” not to limit the size of the e-mail that can be sent at a time. To set the upper limit, select “Enable,” and enter the upper limit value.
This function prevents a large amount of e-mail from being sent in a short period.
Consult your ISP or system administrator for the available upper limit value. When the size of the e-mail to be sent exceeds the specified upper limit, the attached file is divided and sent with separate e-mail at an interval of 20 minutes.

Example) When the size of the billing data is 4 MB, the upper limit of the attachment size is 1 MB, and the upper limit of the e-mail size is 2 MB:
Approximately 1 MB e-mail is sent two times successively at 6 a.m., and after 20 minutes have passed, the remaining 2 MB data is divided and sent in two e-mails. Then, the file for combining the divided billing data files is sent.

Note

- When “Transmission size limit” is set to [Enable], make sure to set “Attachment size limit." Set "Attachment size limit” to a value larger than that of “Transmission size limit.”

③ Encrypt attachments

This item is used to set an encryption password to an attachment file for enhancing security.
To encrypt the attachment file, select [Enable], and enter the cryptographic key.
Click [Display cryptographic key] to display the characters entered.

④ Site name

Enter the site name. It will be added to the subject and the text of the e-mail to be sent.

Note

- Up to 20 characters can be used.

⑤ E-Mail format

The e-mail is sent in the following format.

Title	[Site name]_[File name] Calculation results of apportioned electricity usage by Charge Calculation Tool
Text	This email was automatically sent by the email send function of the Charge Calculation Tool. Site name: [Site name] File name: [File name] If the email is divided, a combining file [file name] is attached to the last email. Add the extension ".bat" to the name, and double click the file. The divided files are combined to a zip file. *Save the divided files and the combining file into the same folder. This is an automated message. Please do not reply directly to this email.

Note

- The site name specified in ④ will be entered in [Site name].

  [File name] will be as follows.

  When one attachment file is sent: "Date of the billing data (yyyymmdd)" + ".zip"

  When multiple attachment files are sent: "." (dot) and 001of[the number of divisions], 002of[the number of divisions]… are added to the end of "Date of the billing data (yyyymmdd)" + ".zip"

  Example) When the date is January 1, 2019 and the attached file was divided into two files:
  20190101.zip.001of002, 20190101.zip.002of002

  The combining file name will be "Date (yyyymmdd)" + "_"
- When one attachment file is sent, "If the email is divided, … into the same folder." will not be included in the e-mail text.

⑥ Click [OK] to save the e-mail settings.

Note

- The e-mail settings has not been saved yet. Click [OK] in the E-Mail window to determine the settings.

4-1-3. Saving the settings

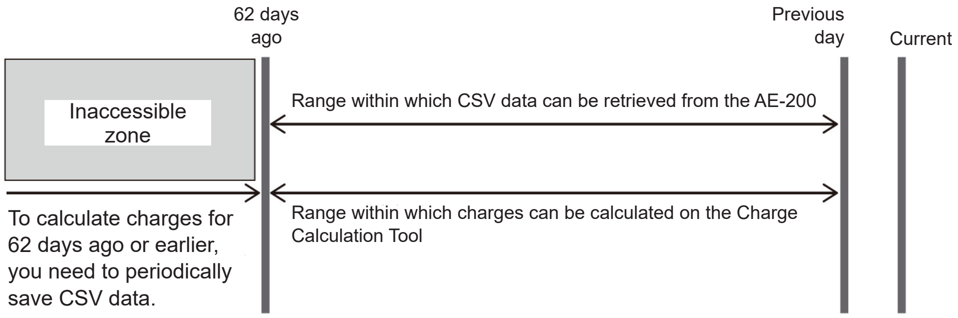
Click [OK] to save the settings.

Note

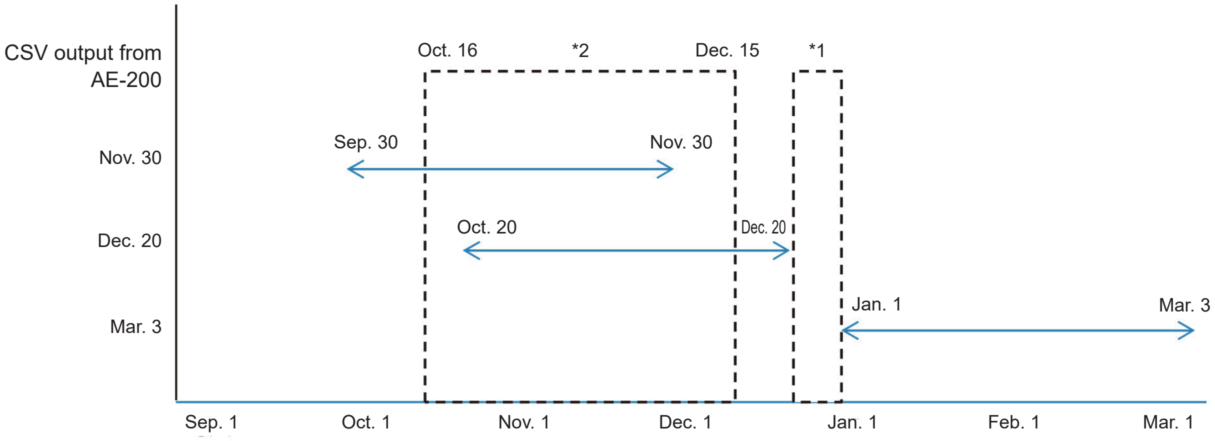
- When the PC clock is set to a past time while the e-mail settings are enabled, make sure to click [OK] even when no setting items were changed.

4-2. Calculating the charges for 2 months ago or earlier

CSV files can be retrieved from a USB memory on the AE-200 for periods of up to 62 days (2 months) prior to the previous day. It is recommended that you periodically (once a month) back up CSV data in order to calculate charges for periods earlier than that.


62 days ago
Previous day
Current
Inaccessible zone
Range within which CSV data can be retrieved from the AE-200
Range within which charges can be calculated on the Charge Calculation Tool
To calculate charges for 62 days ago or earlier, you need to periodically save CSV data.

Charges calculation example


CSV output from AE-200
Nov. 30
Dec. 20
Mar. 3
Oct. 16
*2
Dec. 15
*1
Sep. 30
Nov. 30
Oct. 20
Dec. 20
Jan. 1
Mar. 3
Sep. 1
Oct. 1
Nov. 1
Dec. 1
Jan. 1
Feb. 1
Mar. 1

*1 If CSV data (apportioned results) is retrieved from the AE-200 as shown in the figure above, charges for the period from Dec. 21 to Dec. 31 where the CSV data is missing cannot be calculated.

*2 To calculate the charge from Oct. 16 to Dec. 15 in the figure above, calculate for the period from Oct. 16 to Nov. 30 using the CSV file for Sep. 30 to Nov. 30, and then calculate for the period from Dec. 1 to Dec. 15 using the CSV file for Oct. 20 to Dec. 20.
The total of these two output files will be the calculation result for Oct. 16 to Dec. 25.
Where a total is taken from two files for different periods (on the same AE-200), the charge cannot be calculated in a single operation.

4-2-1. Periodically saving USB output to a PC

Periodically save your data (at least once per month).

Important

- When multiple AE-200 units are used, output to a USB for each AE-200 unit.
  Refer to section 3-2-2 [1] “CSV files (apportioned results) in systems where electric energy is metered (with-metering-device method)” or 3-2-2 [2] “Systems where the electric energy is entered manually (no-metering-device method)” for how to make a backup.

4-3. Other setting changes and precautions

4-3-1. Changing the closing date

Because the charge calculation period for the closing date calculation (automatic output) is fixed at 1 month:

① When moving the closing date forward (here explains with an example when the closing date is changed to May 15 after a previous closing date of Apr. 20), a 1-month period must be calculated by specifying a set date. This is because the calculation period for a closing date of Apr. 20 is from Mar. 21 to Apr. 20, while the calculation period for May 15 is from Apr. 16 to May 15, meaning that the period from Apr. 16 to 20 will be calculated twice.
Rather than using the calculation results for a May 15 closing date, use a specified date calculation for the period Apr. 21 to May 15.
From the next period (May 16 to Jun. 15) onwards, the normal calculation method can be used.

② When moving the closing date backward (here explains with an example when the closing date is changed to May 25 after a previous closing date of Apr. 20), calculate the charge by using a closing date calculation for May 25 and then do an additional calculation specifying the dates from Apr. 21 to 25. This is because the calculation period for a closing date of Apr. 20 is from Mar. 21 to Apr. 20, while the calculation period for May 25 is from Apr. 26 to May 25, meaning that the period from Apr. 21 to 25 will not be calculated.
From the next period (May 26 to Jun. 25) onwards, the normal calculation method can be used.

Refer to section 3-3 “Closing date calculation (automatic output)” for specific setting changes.

4-3-2. Changing the unit price (special day, seasonal)

To change the unit price, use the procedures below to modify the charge calculation and the unit price.

① To change the price during a period with specified dates:
(E.g.) When the closing date is the 20th of each month and the price change is on May 1.

Procedures

1. Set the “Time period for calculation” on the [Basic Settings] screen to Apr. 21 to Apr. 30 and click [Start calculation].
2. On [Advanced Settings] > “Unit price settings” screen, enter the new unit price.
3. Set the “Time period for calculation” on the [Basic Settings] screen to May 1 to May 20 and click [Start calculation].

Refer to section 4-1-2 “Charge Calculation Tool settings” for specific setting changes.

② To change the time period setting for the price:
You cannot retrospectively change a time period setting in the past.

Contact your dealer, designated service outlet, or the customer service desk specified by the manufacturer.

4-3-3. Changing the tenant name

When changing a tenant, calculate the charges up to the specified final date for the original tenant before changing the tenant name.
(Even where the closing date is within the period covered by a closing date calculation (automatic output), a specified date calculation is required.)
This section explains with an example when the closing date is the 20th, the current tenant “A” is resident until Apr. 15, and the new tenant “B” takes up residence as of Apr. 16.

Procedures

1. Because invoicing is carried out for each closing date up to Mar. 20, carry out a specified date calculation for Mar. 21 to Apr. 15 to cover the period up to Apr. 16 and invoice to the current tenant “A”.
2. After the calculation in procedure 1 and before the next closing date, change the tenant name (energy management block name) on the [Unit Settings] > [Energy management block settings] screen on the Initial Setting Tool.

   Important

   - Follow the procedures in section 6-3-2 “Flow of the initial settings on Initial Setting Tool”.
3. In the closing date invoice for Apr. 20 (Mar. 21 to Apr. 20), do not invoice to the new tenant “B”.

4. Invoice to the new tenant “B” starting with the specified date calculation for Apr. 16 to Apr. 20.

Note

- When the charge calculation is carried out for the previous period after the tenant name is changed to the new tenant “B”, the name of the new tenant “B” will be printed, meaning that the data does not match with the actual situation.

Contact your dealer, designated service outlet, or the customer service desk specified by the manufacturer.

4-3-4. Changing the tenant (energy management block) floor plan

Example: When changing the tenant floor plan due to the tenant change

Contact your dealer, designated service outlet, or the customer service desk specified by the manufacturer.

4-4. Displaying energy management data

On the “Energy Use Status” screen, electric energy consumption for each energy management block/group/unit can be displayed in a graph. Also, by setting target values, the target values and the current energy use status can be displayed for comparison.

On the “Ranking” screen, the rankings in electric energy consumption can be displayed in descending order in a graph.

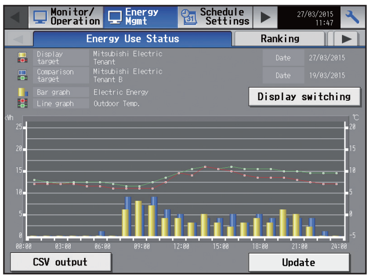
On the “Energy management list” screen, electric energy consumption for each energy management block per month can be displayed in a table.

Note

- Refer to AE-200 Instruction Book (section 3-2. Energy Management) for how to make energy use status settings and ranking settings.

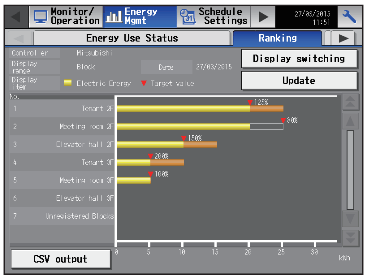
■ LCD

Energy Use Status


Monitor/ Operation
Energy Mgmt
Schedule Settings
27/03/2015 11:47
Energy Use Status
Ranking
Display switching
kWh
25
20
15
10
5
0
℃
20
15
10
5
0
-5
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
24:00
CSV output
Update

Display target: Mitsubishi Electric Tenant — Date 27/03/2015
Comparison target: Mitsubishi Electric Tenant B — Date 19/03/2015
Bar graph: Electric Energy
Line graph: Outdoor Temp.

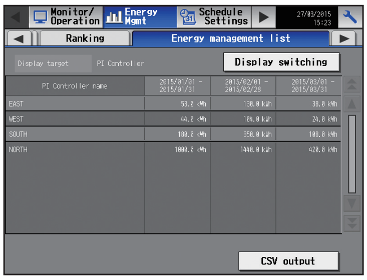
Ranking


Monitor/ Operation
Energy Mgmt
Schedule Settings
27/03/2015 11:51
Energy Use Status
Ranking
Display switching
Update
125%
80%
150%
200%
100%
0
5
10
15
20
25
30
kWh
CSV output

Controller: Mitsubishi
Display range: Block — Date 27/03/2015
Display item: Electric Energy ▼ Target value

No.	
1	Tenant 2F
2	Meeting room 2F
3	Elevator hall 2F
4	Tenant 3F
5	Meeting room 3F
6	Elevator hall 3F
7	Unregistered Blocks

Energy management list

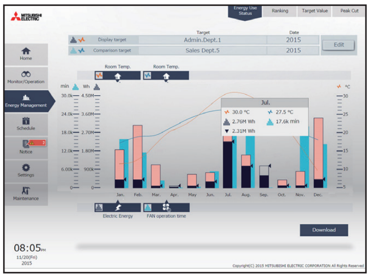

Monitor/ Operation
Energy Mgmt
Schedule Settings
27/03/2015 15:23
Ranking
Energy management list
Display switching
CSV output

Display target: PI Controller

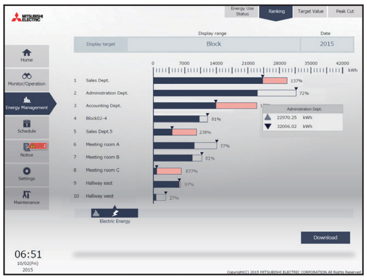
PI Controller name	2015/01/01 - 2015/01/31	2015/02/01 - 2015/02/28	2015/03/01 - 2015/03/31
EAST	53.0 kWh	130.0 kWh	38.0 kWh
WEST	44.0 kWh	104.0 kWh	24.0 kWh
SOUTH	180.0 kWh	350.0 kWh	108.0 kWh
NORTH	1000.0 kWh	1440.0 kWh	420.0 kWh

■ Integrated Centralized Control Web

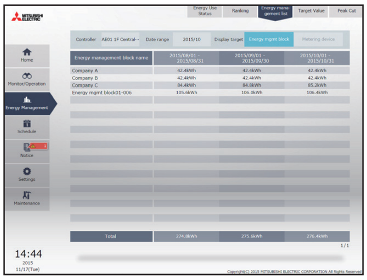
Energy Use Status



Ranking



Energy management list



The setting methods and the information displayed in the graphs differ depending on whether or not a “Charge” license is registered.
The differences are shown below.

		“Charge” license registered	“Charge” license not registered
Energy Use Status		The following electric energy data are included. • Outdoor unit operating electric energy • Outdoor unit standby electric energy • Indoor unit operating electric energy • Indoor unit standby electric energy	The following electric energy data are included. • Outdoor unit operating electric energy • Outdoor unit standby electric energy
Ranking			
Target value settings [*1]		Sets the total target value of electric energy consumption for outdoor and indoor units.	Sets the target value of electric energy consumption for outdoor units.
Energy management list		Electric energy consumption for each energy management block or metering device per month can be displayed.	Cannot be displayed.
Setting method	Measurement setting	Set a measurement unit of the pulse weight on the [Function1] > [Measurement] screen on the LCD. (The setting can also be made on the Initial Setting Tool or the Web Browser for Initial Settings.)	
	Apportioning mode setting	Set an apportioning mode on the [Billing Function Settings] > [Billing Function Settings] screen on the Initial Setting Tool. Note • The settings on the energy management settings screen on the LCD or the Web Browser for Initial Settings will be ineffective.	On the [Function1] > [Energy Management] screen on the LCD, select one of the following indoor unit apportioning modes; [Capacity save amount], [Thermo-ON time], and [FAN operation time]. (The setting can also be made on the Web Browser for Initial Settings.)
	Electricity meter setting	On the Initial Setting Tool, select a connected indoor unit and outdoor unit for each measurement pulse input or PI controller CH (Channel) number. Note • The settings on the energy management settings screen on the LCD or the Web Browser for Initial Settings will be ineffective.	On the [Function1] > [Energy Management] screen on the LCD, select an electricity meter that measures the electric energy consumption of the outdoor unit to which a given indoor unit is connected. (The setting can also be made on the Web Browser for Initial Settings.)
	Standby electric energy setting	On the Initial Setting Tool, you can choose whether to include standby electric energy in the operating electric energy. The value of the standby electric energy can also be changed.	Cannot be set.

[*1] The Integrated Centralized Control Web displays the integrated value of the target values set in AE-200/AE-50/EW-50. The target values cannot be set.

5. Preparation of the software (installation)

5-1. Installation procedures of the Charge Calculation Tool

Note

- The installed version of .NET Framework can be checked by selecting the Windows Start menu and then choosing Control Panel > Program and Features.
- To upgrade the version of Charge Calculation Tool, perform the following installation procedure.

Procedures

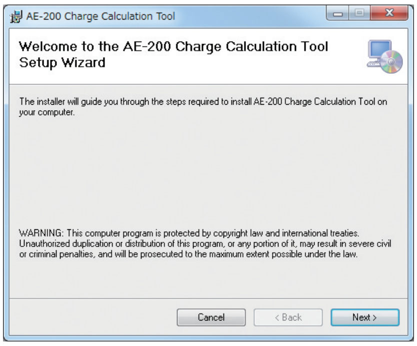
1. Execute the setup file of Charge Calculation Tool.

Note

- The setup file is “setupCCToolA_V***.msi” for AE-200A/AE-50A/EW-50A.
  The setup file is “setupCCToolE_V***.msi” for AE-200E/AE-50E/EW-50E.
  (“V***” indicates version number. “V110” indicates Ver. 1.10.)

2. If the “Security Warning” message appears, click [Run].

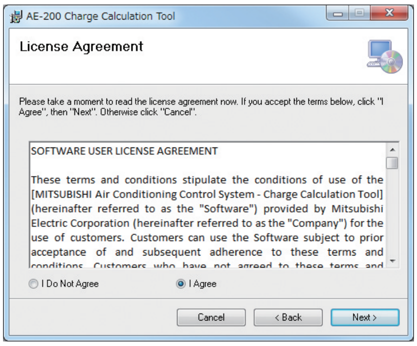
3. When the “Setup Wizard” screen appears, click [Next].


AE-200 Charge Calculation Tool
Welcome to the AE-200 Charge Calculation Tool Setup Wizard
Cancel
< Back
Next >

The installer will guide you through the steps required to install AE-200 Charge Calculation Tool on your computer.

WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.

4. The “License Agreement” screen will appear. Select [I Agree] and click [Next].



Please take a moment to read the license agreement now. If you accept the terms below, click "I Agree", then "Next". Otherwise click "Cancel".

SOFTWARE USER LICENSE AGREEMENT

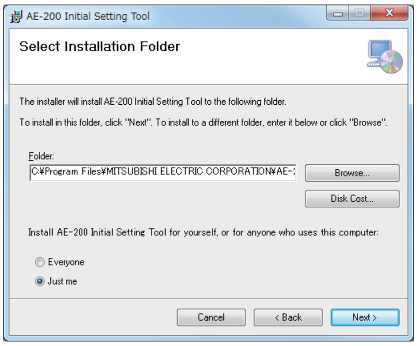
These terms and conditions stipulate the conditions of use of the [MITSUBISHI Air Conditioning Control System - Charge Calculation Tool] (hereinafter referred to as the "Software") provided by Mitsubishi Electric Corporation (hereinafter referred to as the "Company") for the use of customers. Customers can use the Software subject to prior acceptance of and subsequent adherence to these terms and conditions. Customers who have not agreed to these terms and

○ I Do Not Agree ● I Agree

5. The “Select Installation Folder” screen will appear. Select the save destination folder and click [Next].

Note

- To allow all users who can login the PC to have access to the Charge Calculation Tool, check that the [Everyone] checkbox is selected and then click [Next].



The installer will install AE-200 Initial Setting Tool to the following folder.

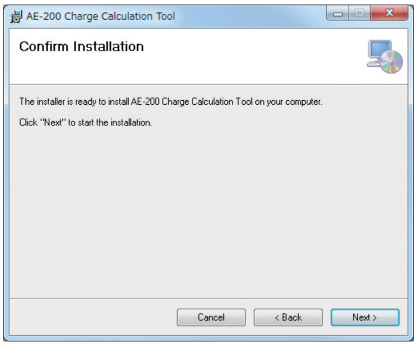
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".

Folder: C:¥Program Files¥MITSUBISHI ELECTRIC CORPORATION¥AE-

Install AE-200 Initial Setting Tool for yourself, or for anyone who uses this computer:

○ Everyone
● Just me

6. When the “Confirm Installation” screen appears, click [Next].

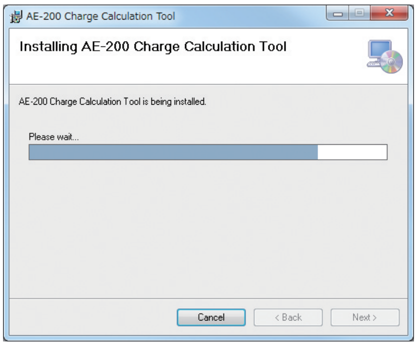

AE-200 Charge Calculation Tool
Cancel
< Back
Next >

Confirm Installation

The installer is ready to install AE-200 Charge Calculation Tool on your computer.

Click "Next" to start the installation.

7. The Charge Calculation Tool will be installed.

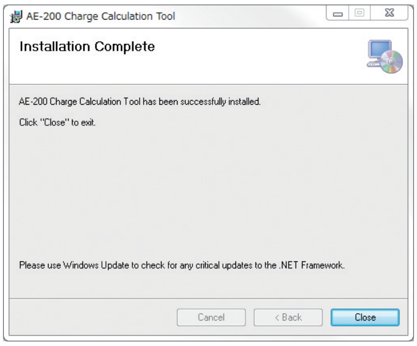

AE-200 Charge Calculation Tool
Cancel
< Back
Next >

Installing AE-200 Charge Calculation Tool

AE-200 Charge Calculation Tool is being installed.

Please wait...

8. Once installation is completed, click [Close].


AE-200 Charge Calculation Tool
Cancel
< Back
Close

Installation Complete

AE-200 Charge Calculation Tool has been successfully installed.

Click "Close" to exit.

Please use Windows Update to check for any critical updates to the .NET Framework.

Note

- A Charge Calculation Tool shortcut icon will be created on the desktop.
  To launch the software, double-click the icon.

5-2. Installation procedures of the Initial Setting Tool

Note

- The installed version of .NET Framework can be checked by selecting the Windows Start menu and then choosing Control Panel > Program and Features.
- To upgrade the version of Initial Setting Tool, perform the following installation procedure.

Procedures

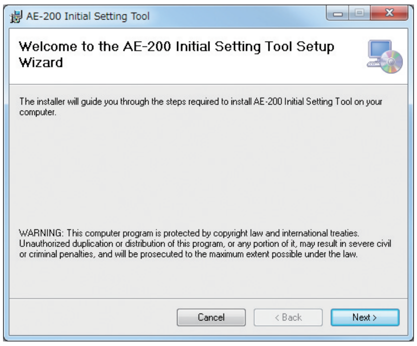
1. Execute “setup.msi” for the Initial Setting Tool.

Note

- The setup file is “setupISToolA_V***.msi” for AE-200A/AE-50A/EW-50A.
  The setup file is “setupISToolE_V***.msi” for AE-200E/AE-50E/EW-50E.
  (“V***” indicates version number. “V110” indicates Ver. 1.10.)

2. If the “Security Warning” message appears, click [Run].

3. When the “Setup Wizard” screen appears, click [Next].

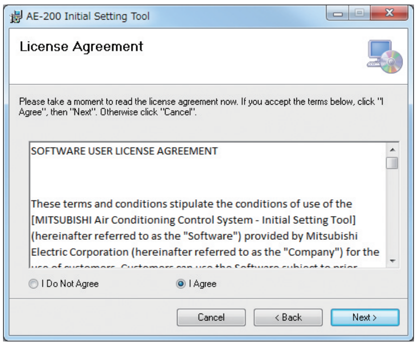


Welcome to the AE-200 Initial Setting Tool Setup Wizard

The installer will guide you through the steps required to install AE-200 Initial Setting Tool on your computer.

WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.

4. The “License Agreement” screen will appear. Select [I Agree] and click [Next].



License Agreement

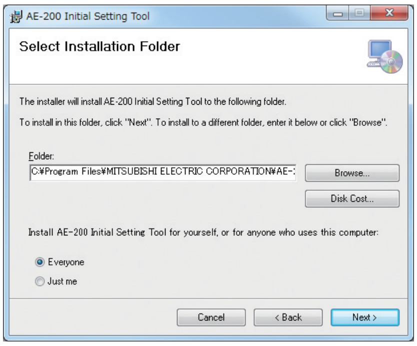
Please take a moment to read the license agreement now. If you accept the terms below, click "I Agree", then "Next". Otherwise click "Cancel".

SOFTWARE USER LICENSE AGREEMENT

These terms and conditions stipulate the conditions of use of the [MITSUBISHI Air Conditioning Control System - Initial Setting Tool] (hereinafter referred to as the "Software") provided by Mitsubishi Electric Corporation (hereinafter referred to as the "Company") for the

○ I Do Not Agree ● I Agree

5. The “Select Installation Folder” screen will appear. Select the save destination folder and click [Next].



Select Installation Folder

The installer will install AE-200 Initial Setting Tool to the following folder.

To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".

Folder: C:¥Program Files¥MITSUBISHI ELECTRIC CORPORATION¥AE-

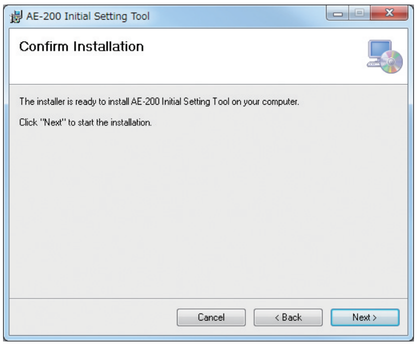
Install AE-200 Initial Setting Tool for yourself, or for anyone who uses this computer:

● Everyone
○ Just me

Note

- To allow all users who can login the PC to have access to the Initial Setting Tool, check that the [Everyone] checkbox is selected and then click [Next].

6. When the “Confirm Installation” screen appears, click [Next].

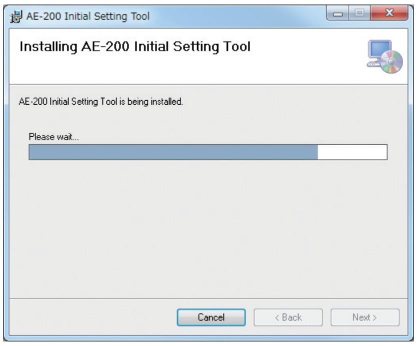


Confirm Installation

The installer is ready to install AE-200 Initial Setting Tool on your computer.

Click "Next" to start the installation.

7. The Initial Setting Tool will be installed.


AE-200 Initial Setting Tool

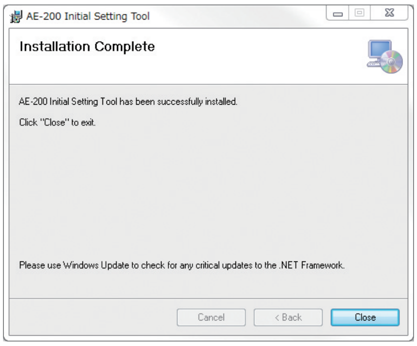
Installing AE-200 Initial Setting Tool

AE-200 Initial Setting Tool is being installed.

Please wait...

Cancel
< Back
Next >

8. Once installation is completed, click [Close].


AE-200 Initial Setting Tool

Installation Complete

AE-200 Initial Setting Tool has been successfully installed.

Click "Close" to exit.

Please use Windows Update to check for any critical updates to the .NET Framework.

Cancel
< Back
Close

Note

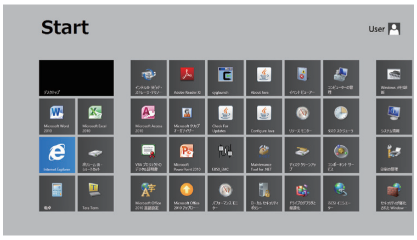
- An Initial Setting Tool shortcut icon will be created on the desktop.
  To launch the software, double-click the icon.

5-3. Setting the PC's IP address

5-3-1. For Windows 8.1

Procedures

1. Click the [Desktop] icon on the Start screen.



2. Double-click the [My Computer] icon on the desktop.

3. Click [Open Control Panel] in the tool bar.
4. Click the [Network and Sharing Center] icon.
5. Click [Change adapter settings].
6. Double-click the [Ethernet] icon.
7. In the "Ethernet Status" window, click [Properties].
8. Click [Internet Protocol Version 4 (TCP/IPv4)] to select it, and click [Properties].
9. In the [Internet Protocol Version 4 (TCP/IPv4) Properties] window, check the radio button next to [Use the following IP address]
10. Enter the PC's IP address (e.g., [192.168.1.101]) in the "IP address" field.
11. Enter the subnet mask [255.255.255.0] (unless otherwise specified) in the "Subnet mask" field.
12. In the "Default gateway" field, enter the gateway address as necessary.

    Important

    - Consult the system administrator to decide the IP, subnet mask, and gateway addresses.

13. Keep clicking [OK] or [Close] to close all windows.

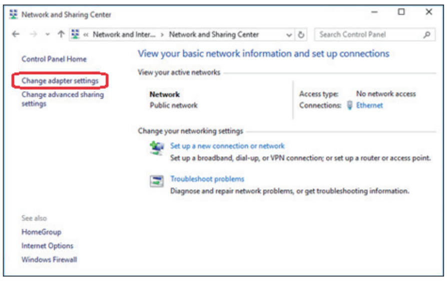
5-3-2. For Windows 10 or Windows 11

Procedures

1. Search for the control panel in the search window.
   The Control Panel will open.

2. Click the [Network and Sharing Center] icon.

3. Click [Charge adapter settings].


Network and Sharing Center
Network and Inter... › Network and Sharing Center
Search Control Panel
Control Panel Home
Change adapter settings
Change advanced sharing settings
See also
HomeGroup
Internet Options
Windows Firewall
Set up a new connection or network
Troubleshoot problems

View your basic network information and set up connections

View your active networks

Network
Public network

Access type: No network access
Connections: Ethernet

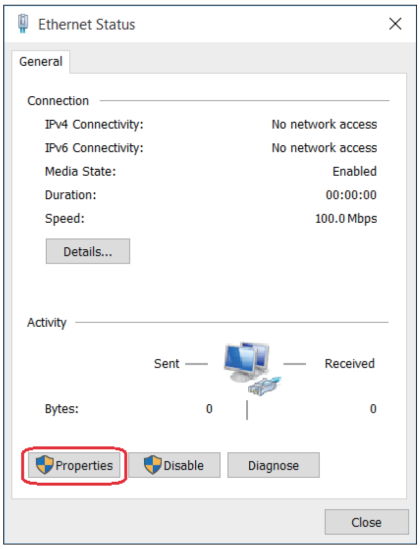
Change your networking settings

Set up a broadband, dial-up, or VPN connection; or set up a router or access point.

Diagnose and repair network problems, or get troubleshooting information.

4. Double-click the [Ethernet] icon.

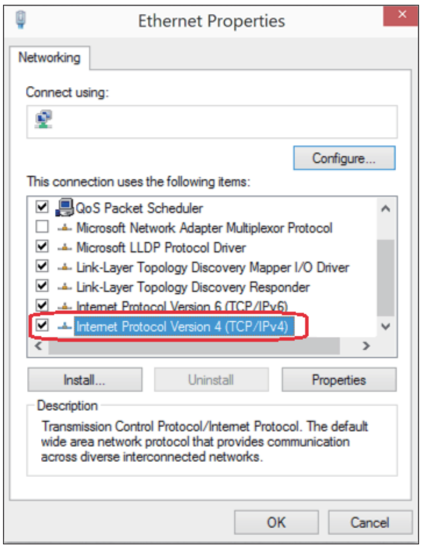
5. In the [Ethernet status] window, click [Properties].


Ethernet Status
General
Details...
Sent
Received
Properties
Disable
Diagnose
Close

Connection
IPv4 Connectivity: No network access
IPv6 Connectivity: No network access
Media State: Enabled
Duration: 00:00:00
Speed: 100.0 Mbps

Activity
Bytes: 0 0

6. Click [Internet Protocol Version 4 (TCP/IPv4)] to select it, and click [Properties].


Ethernet Properties
Networking
Configure...
Install...
Uninstall
Properties
OK
Cancel

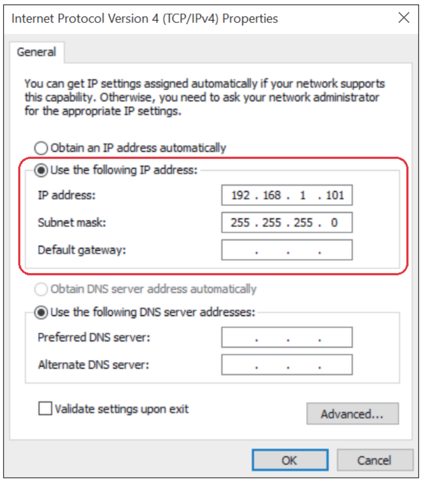
Connect using:

This connection uses the following items:

☑ QoS Packet Scheduler
☐ Microsoft Network Adapter Multiplexor Protocol
☑ Microsoft LLDP Protocol Driver
☑ Link-Layer Topology Discovery Mapper I/O Driver
☑ Link-Layer Topology Discovery Responder
☑ Internet Protocol Version 6 (TCP/IPv6)
☑ Internet Protocol Version 4 (TCP/IPv4)

Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

7. In the [Internet Protocol Version 4 (TCP/IPv4) Properties] window, check the radio button next to [Use the following IP address].
8. Enter the PC’s IP address (e.g., [192.168.1.101]) in the “IP address” field.
9. Enter the subnet mask [255.255.255.0] in the “Subnet mask” field.
10. In the “Default gateway” field, enter the gateway address as necessary.


Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically

● Use the following IP address:

IP address: 192 . 168 . 1 . 101

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

○ Obtain DNS server address automatically

● Use the following DNS server addresses:

Preferred DNS server: . . .

Alternate DNS server: . . .

☐ Validate settings upon exit

Important

- Consult the system administrator to decide the IP, subnet mask, and gateway addresses.

11. Keep clicking [OK] or [Close] to close all windows.

5-4. Installation procedures of .NET Framework

If .NET Framework 4.8 or later is not already installed, download the .NET Framework 4.8 installer from the URL shown below, and then install it.

https://dotnet.microsoft.com/en-us/download/dotnet-framework/net48

* Other language can also be selected from this website.

6. Initial settings

6-1. General descriptions

Before using an apportioned electricity billing function (AE-200 Apportion), initial settings and trial run must be completed beforehand by authorized personnel on site. Please receive an explanation from your dealer or contractor on how to use the function.

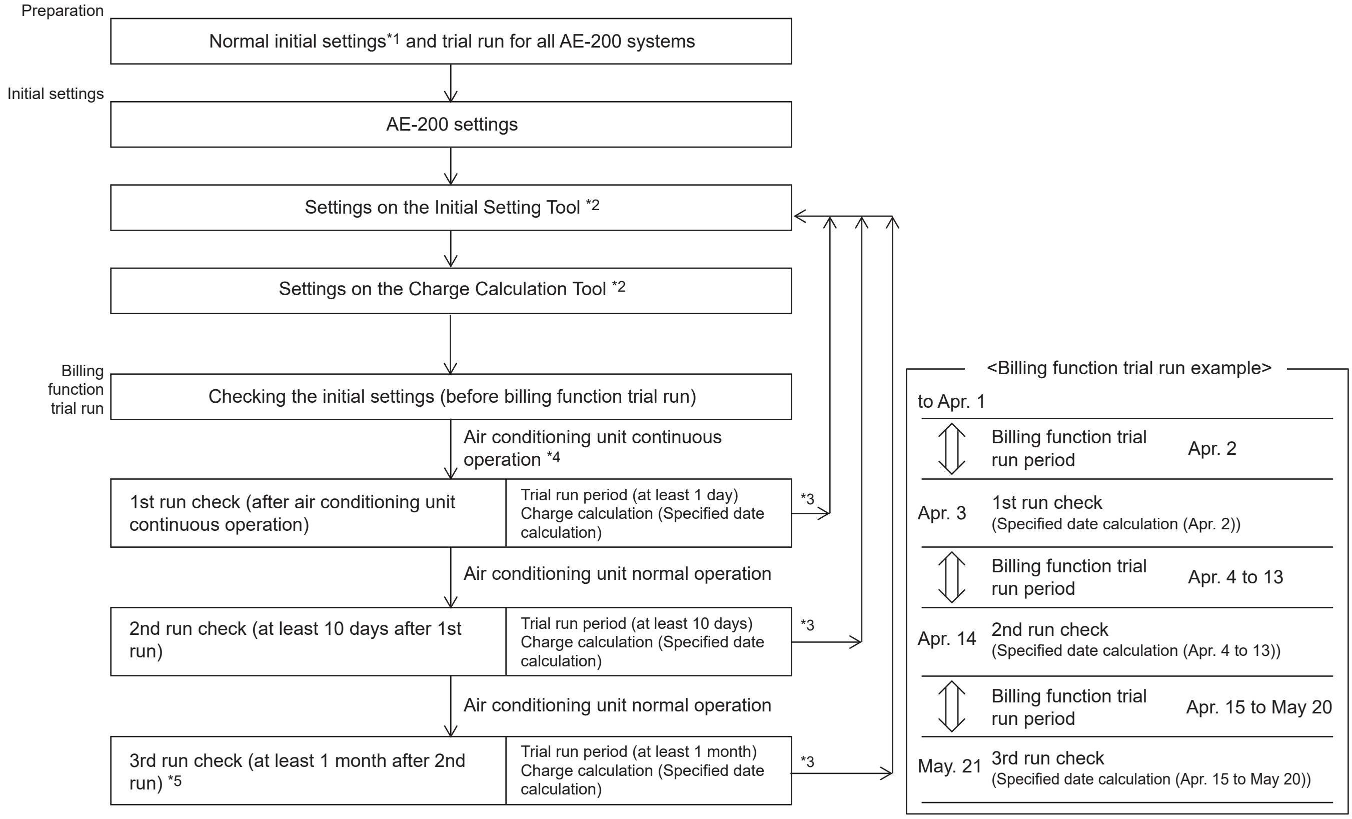
* For dealers and contractors
Install the software (tool), make initial settings, and perform trial runs according to the procedures in the order of sections 5, 6, and 7 in this manual. Provide sufficient explanation about an apportioned electricity billing function to the customer, referring to section 2 (2-7).

Before making initial settings for an apportioned electricity billing function, check that the other initial settings and trial runs have been completed on the AE-200, Initial Setting Tool, or the Web Browser for Initial Settings.

Note

- Make sure that the software versions of the AE-200/AE-50/EW-50 are the same (Ver. 7.23 or later). (For how to update the software, refer to the AE-200/AE-50/EW-50 Installation Manual.)

6-1-1. Flow of the initial settings and billing function trial run


Preparation
Normal initial settings*1 and trial run for all AE-200 systems
Initial settings
AE-200 settings
Settings on the Initial Setting Tool *2
Settings on the Charge Calculation Tool *2
Billing function trial run
Checking the initial settings (before billing function trial run)
Air conditioning unit continuous operation *4
1st run check (after air conditioning unit continuous operation)
Trial run period (at least 1 day) Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
2nd run check (at least 10 days after 1st run)
Trial run period (at least 10 days) Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
3rd run check (at least 1 month after 2nd run) *5
Trial run period (at least 1 month) Charge calculation (Specified date calculation)
*3
<Billing function trial run example>
to Apr. 1
Billing function trial run period
Apr. 2
Apr. 3
1st run check
(Specified date calculation (Apr. 2))
Billing function trial run period
Apr. 4 to 13
Apr. 14
2nd run check
(Specified date calculation (Apr. 4 to 13))
Billing function trial run period
Apr. 15 to May 20
May. 21
3rd run check
(Specified date calculation (Apr. 15 to May 20))

*1 Complete settings such as unit settings, network settings, license registration, group settings, block settings and measurement settings.
*2 Refer to section 6-1-2 “Required settings to use an apportioned electricity billing function” for items to be set on the Initial Setting Tool and Charge Calculation Tool.
*3 If any setting changes are needed during a billing function trial run, make the settings on the Initial Setting Tool.
*4 Run each indoor unit continuously for at least 2 hours.
*5 Check at least 1 month after the 2nd billing function trial run on the day after the closing date.

6-1-2. Required settings to use an apportioned electricity billing function

The table below summarizes the settings that are required to use an apportioned electricity billing function.

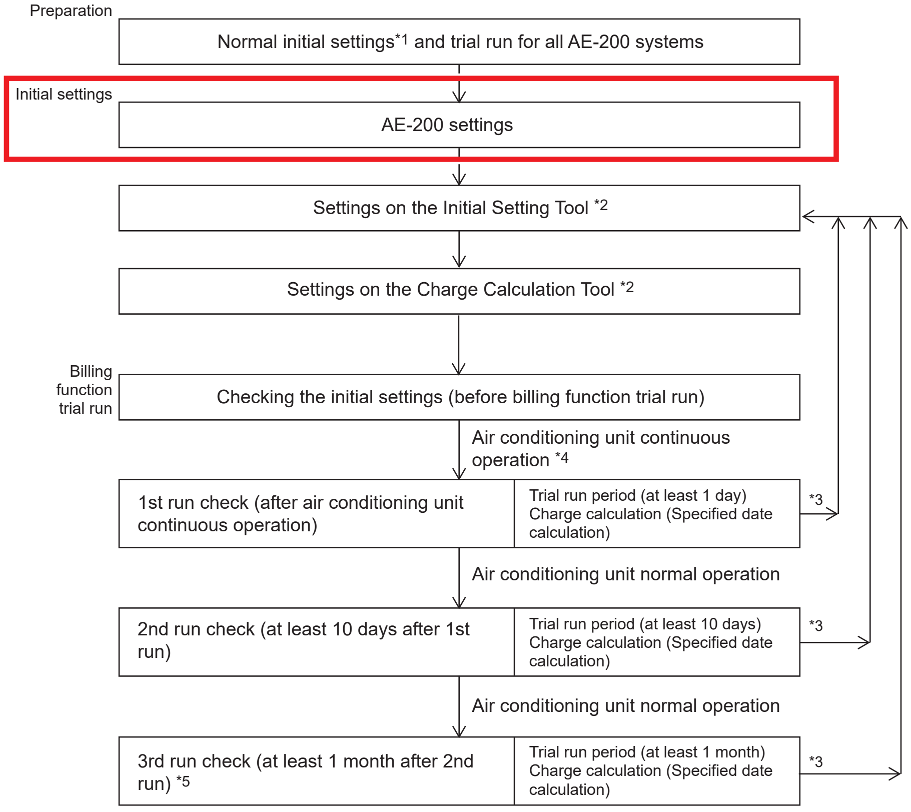
V : Items required to be set to use an Initial Setting Tool
◎ : Items required to be set to use an apportioned electricity billing function
○ : Items that can be set

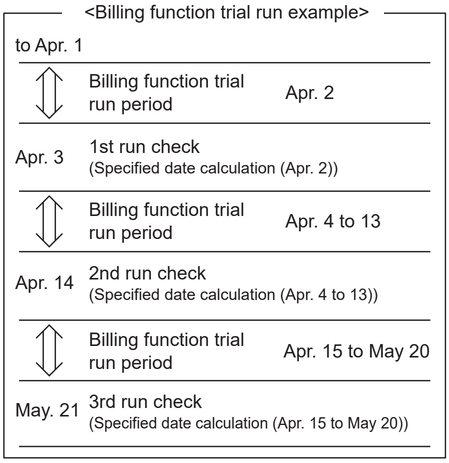
Setting item		Initial Setting Tool	Charge Calculation Tool	Reference section	AE-200/ AE-50's LCD	Integrated Centralized Control Web
Basic settings	License registration (individual)	◎ *7		—	○	○
	License registration (batch)	◎ *7		—		
	Unit information	○ *2		6-2-2	◎ *2	
	Network settings	○ *8		—	○	
	System configuration settings	V		6-5-1		
	Basic system settings	○ *2*3		6-5-2	○ *2*3	
Unit settings	Group settings	◎		6-6-1	○	
	Refrigerant system settings	◎		6-6-2		
	Interlocked LOSSNAY settings	○		6-6-3	○	
	Block settings	○		6-6-4	○	
	Energy management block settings	◎		6-6-5	◎	
	PI controller settings	◎		6-6-6	○	
	AI controller settings	○		6-6-7	○	
Function settings *4	E-Mail			—		○ *8
	Peak Cut *1			—	○	○ *8
	Interlock control *1	○ *6		—	○	
	Energy Management settings	○ *8		—	○	
	External Temperature Interlock			—	○	○ *8
	Night Setback Control			—	○	○ *8
	AHC Port Name settings	○ *8		—		
	Night purge			—	○	○ *8
	Set Temperature Range Limit			—		○ *8
	Night Mode (quiet operation) Schedule			—		○ *8
	System-changeover	○ *8		—		
Floor settings *5	Floor settings	○		—	○	
	Floor Layout settings	○		—	○	
	Floor settings for Integrated Centralized Control Web	○		—		
	Floor Layout settings for Integrated Centralized Control Web	○		—		
Billing function settings	Billing Function settings	◎		6-7-1		
	Outdoor Unit settings	◎		6-7-2		
	Indoor Unit settings	◎		6-7-3		
	Measurement settings	◎		6-7-4		
	Charges settings	◎		6-7-5		

Setting item		Initial Setting Tool	Charge Calculation Tool	Reference section	AE-200/ AE-50’s LCD	Integrated Centralized Control Web
Charge Calculation Tool settings	Metering device connection		◎	4-1-2		
	Calculation of standby electric energy		◎			
	Currency unit		◎			
	Display order of charge calculation result		◎			
	Merger of energy management blocks with same name		◎			
	Decimal point character for CSV file		◎			
	Separator character for CSV file		◎			
	Unit price settings		◎			
	E-Mail		◎			
	Print setting		◎	3-3-3		
	CSV output setting		◎			
	Closing date setting		◎			
	IP address setting		◎			

*1 A separate license is required.
*2 Settable items vary.
*3 The Hold function can be used on the AE-200A/AE-50A/EW-50A, but not on the AE-200E/AE-50E/EW-50E.
*4 The setting details are not explained in this manual. Refer to AE-200/AE-50/EW-50 Instruction Book –Initial Settings–.
*5 This setting is only available with centralized controller Ver. 7.30 or later and Initial Setting Tool Ver. 1.10 or later.
*6 This setting is only available with centralized controller Ver. 7.50 or later and Initial Setting Tool Ver. 1.30 or later.
*7 This setting can be made only when the Initial Setting Tool Ver. 1.40 or later is used.
*8 This setting is available for AE-200 Ver. 7.7 or later (Initial Setting Tool Ver. 1.6 or later).

6-2. Settings on the AE-200 for billing function


Preparation
Normal initial settings*1 and trial run for all AE-200 systems
Initial settings
AE-200 settings
Settings on the Initial Setting Tool *2
Settings on the Charge Calculation Tool *2
Billing function trial run
Checking the initial settings (before billing function trial run)
Air conditioning unit continuous operation *4
1st run check (after air conditioning unit continuous operation)
Trial run period (at least 1 day) Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
2nd run check (at least 10 days after 1st run)
Trial run period (at least 10 days) Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
3rd run check (at least 1 month after 2nd run) *5
Trial run period (at least 1 month) Charge calculation (Specified date calculation)
*3


<Billing function trial run example>
to Apr. 1
Billing function trial run period
Apr. 2
Apr. 3
1st run check
(Specified date calculation (Apr. 2))
Billing function trial run period
Apr. 4 to 13
Apr. 14
2nd run check
(Specified date calculation (Apr. 4 to 13))
Billing function trial run period
Apr. 15 to May 20
May. 21
3rd run check
(Specified date calculation (Apr. 15 to May 20))

*1 Complete settings such as unit settings, network settings, license registration, group settings, block settings and measurement settings.
*2 Refer to section 6-1-2 “Required settings to use an apportioned electricity billing function” for items to be set on the Initial Setting Tool and Charge Calculation Tool.
*3 If any setting changes are needed during a billing function trial run, make the settings on the Initial Setting Tool.
*4 Run each indoor unit continuously for at least 2 hours.
*5 Check at least 1 month after the 2nd billing function trial run on the day after the closing date.

6-2-1. Settings on the AE-200

◎ : Items required to be set to use an apportioned electricity billing function
○ : Items that can be set

Setting item		Initial Setting Tool	Charge Calculation Tool	Reference section	AE-200/ AE-50’s LCD	Integrated Centralized Control Web
Basic settings	License registration (individual)	○		—	○	○
	License registration (batch)	○		—		
	Unit information	○ *1		6-2-2	◎ *1	

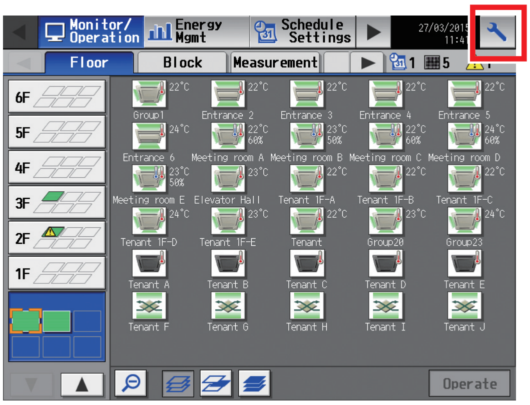
*1 Settable items vary.

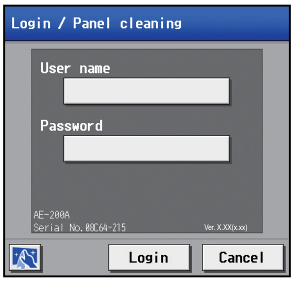
6-2-2. AE-200 unit settings

Follow the instructions below to make AE-200 unit settings.

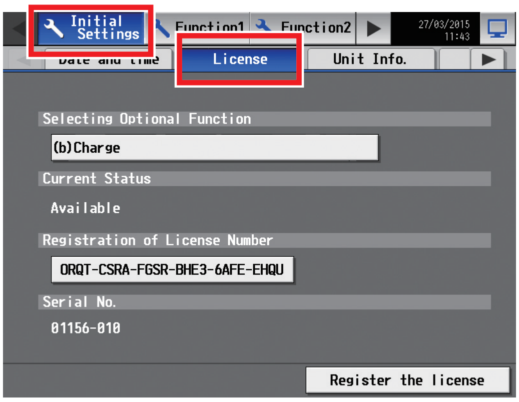
Procedures

1. Touch [🔧] to display the login window.
   Enter the user name and the password in the login window, and touch [Login].
   Refer to section 9-2 “Logging in to the Maintenance screen” for the default maintenance user name and the password.


Monitor/ Operation
Energy Mgmt
Schedule Settings
27/03/2015 11:4
Floor
Block
Measurement
6F
5F
4F
3F
2F
1F
Group1
Entrance 2
Entrance 3
Entrance 4
Entrance 5
Entrance 6
Meeting room A
Meeting room B
Meeting room C
Meeting room D
Meeting room E
Elevator Hall
Tenant 1F-A
Tenant 1F-B
Tenant 1F-C
Tenant 1F-D
Tenant 1F-E
Tenant
Group20
Group23
Tenant A
Tenant B
Tenant C
Tenant D
Tenant E
Tenant F
Tenant G
Tenant H
Tenant I
Tenant J
Operate


Login / Panel cleaning
User name
Password
AE-200A
Serial No. 08C64-215
Ver. X.XX(x.xx)
Login
Cancel

2. Touch [Initial Settings] > [License].

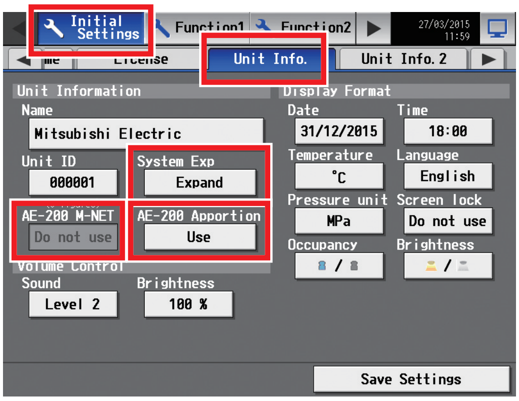

Initial Settings
Function1
Function2
27/03/2015 11:43
Date and time
License
Unit Info.
Register the license

Selecting Optional Function
(b)Charge
Current Status
Available
Registration of License Number
ORQT-CSRA-FGSR-BHE3-6AFE-EHQU
Serial No.
01156-010

3. Touch “Selecting Optional Function” to display [(b) Charge].

4. In “Registration of License Number”, enter the license number and touch [Register the license].

5. Touch [Initial Settings] > [Unit Info.].


Initial Settings
Function1
Function2
27/03/2015 11:59
License
Unit Info.
Unit Info. 2
Save Settings

Unit Information
Name
Mitsubishi Electric
Unit ID
000001
System Exp
Expand
AE-200 M-NET
Do not use
AE-200 Apportion
Use
Volume Control
Sound
Level 2
Brightness
100 %

Display Format
Date
31/12/2015
Time
18:00
Temperature
°C
Language
English
Pressure unit
MPa
Screen lock
Do not use
Occupancy
Brightness

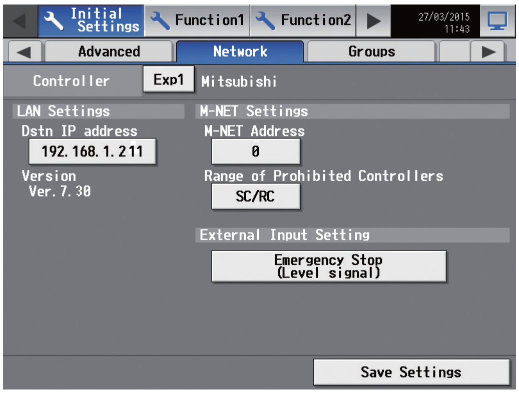
6. Set “System Exp” to [Expand].

7. Set “AE-200 Apportion” to [Use].

8. Set “AE-200 M-NET” to [Do not use].

9. Touch [Save Settings].

10. Touch [Initial Settings] > [Network].


Initial Settings
Function1
Function2
27/03/2015 11:43
Advanced
Network
Groups
Save Settings

Controller Exp1 Mitsubishi

LAN Settings

Dstn IP address 192.168.1.211

Version Ver.7.30

M-NET Settings

M-NET Address 0

Range of Prohibited Controllers SC/RC

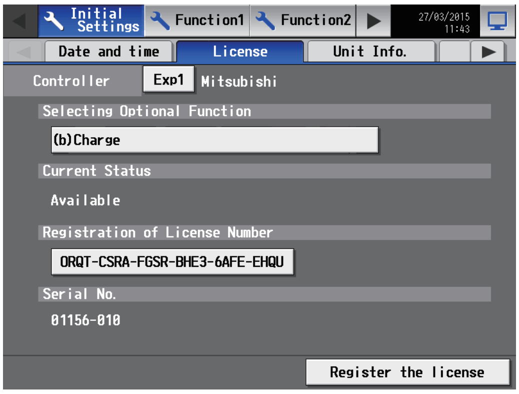
External Input Setting

Emergency Stop (Level signal)

11. Switch the [Controller] setting between [Exp1] through [Exp4] to set the destination IP address in “LAN Settings” for each controller individually, and touch [Save Settings].

12. Touch [Initial Settings] > [License].

13. Switch the [Controller] setting between [Exp1] through [Exp4] to register licenses for each controller individually, referring to steps 3 and 4 above.


Initial Settings
Function1
Function2
27/03/2015 11:43
Date and time
License
Unit Info.
Register the license

Controller Exp1 Mitsubishi

Selecting Optional Function

(b)Charge

Current Status

Available

Registration of License Number

ORQT-CSRA-FGSR-BHE3-6AFE-EHQU

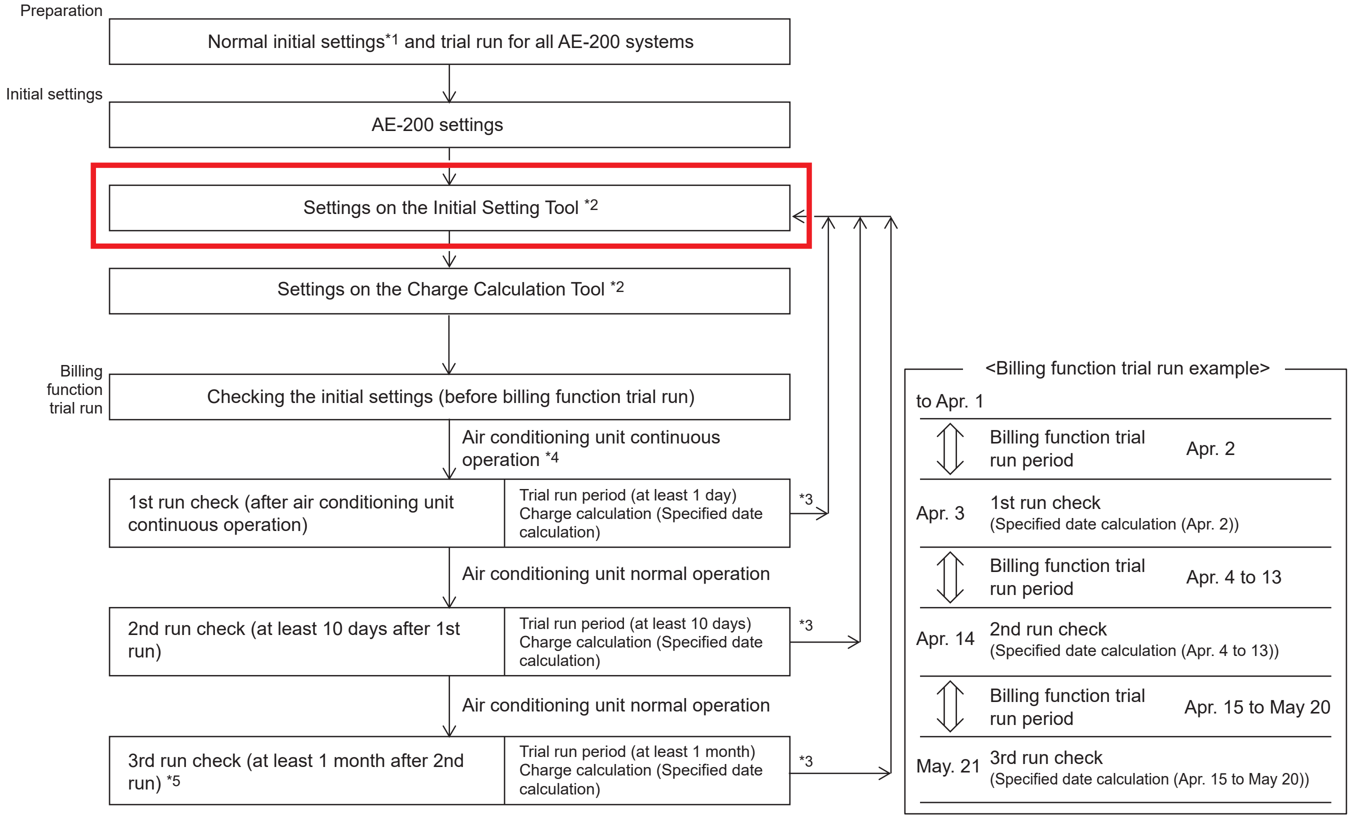
Serial No.

01156-010

Note

- “Charge” license is required for each AE-200/AE-50/EW-50.
- To use an electricity charge apportioning function of TG-2000A, set “AE-200 Apportion” to [Do not use].
- When [Use] is selected in “AE-200 Apportion”, the “AE-200 M-NET” setting will automatically be [Do not use] even if [Use] is set.

6-3. Settings on the Initial Setting Tool


Preparation
Normal initial settings*1 and trial run for all AE-200 systems
Initial settings
AE-200 settings
Settings on the Initial Setting Tool *2
Settings on the Charge Calculation Tool *2
Billing function trial run
Checking the initial settings (before billing function trial run)
Air conditioning unit continuous operation *4
1st run check (after air conditioning unit continuous operation)
Trial run period (at least 1 day) Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
2nd run check (at least 10 days after 1st run)
Trial run period (at least 10 days) Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
3rd run check (at least 1 month after 2nd run) *5
Trial run period (at least 1 month) Charge calculation (Specified date calculation)
*3
<Billing function trial run example>
to Apr. 1
Billing function trial run period
Apr. 2
Apr. 3
1st run check
(Specified date calculation (Apr. 2))
Billing function trial run period
Apr. 4 to 13
Apr. 14
2nd run check
(Specified date calculation (Apr. 4 to 13))
Billing function trial run period
Apr. 15 to May 20
May. 21
3rd run check
(Specified date calculation (Apr. 15 to May 20))

---

*1 Complete settings such as unit settings, network settings, license registration, group settings, block settings and measurement settings.

*2 Refer to section 6-1-2 “Required settings to use an apportioned electricity billing function” for items to be set on the Initial Setting Tool and Charge Calculation Tool.

*3 If any setting changes are needed during a billing function trial run, make the settings on the Initial Setting Tool.

*4 Run each indoor unit continuously for at least 2 hours.

*5 Check at least 1 month after the 2nd billing function trial run on the day after the closing date.

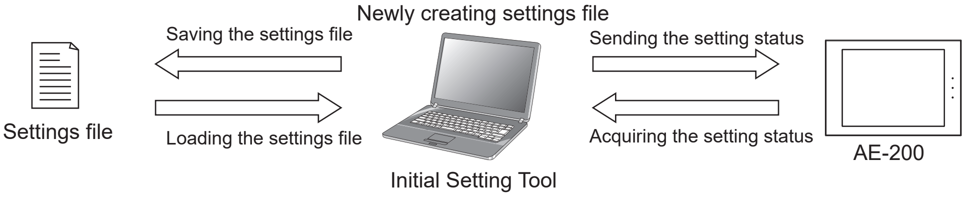
6-3-1. Setting items

V : Items required to be set to use an Initial Setting Tool
◎ : Items required to be set to use an apportioned electricity billing function
○ : Items that can be set

Setting item		Initial Setting Tool	Charge Calculation Tool	Reference section	AE-200/ AE-50's LCD	Integrated Centralized Control Web
Basic settings	License registration (individual)	○		—	○	○
	License registration (batch)	○		—		
	Unit information	○ *1		6-2-2	◎ *1	
	Network settings	○		—	○	
	System configuration settings	V		6-5-1		
	Basic system settings	○ *1*2		6-5-2	○ *1*2	
Unit settings	Group settings	○		6-6-1	○	
	Refrigerant system settings	◎		6-6-2		
	Interlocked LOSSNAY settings	○		6-6-3	○	
	Block settings	○		6-6-4	○	
	Energy management block settings	◎		6-6-5		
	PI controller settings	◎		6-6-6	○	
	AI controller settings	○		6-6-7	○	

*1 Settable items vary.

*2 The Hold function can be used on the AE-200A/AE-50A/EW-50A, but not on the AE-200E/AE-50E/EW-50E.

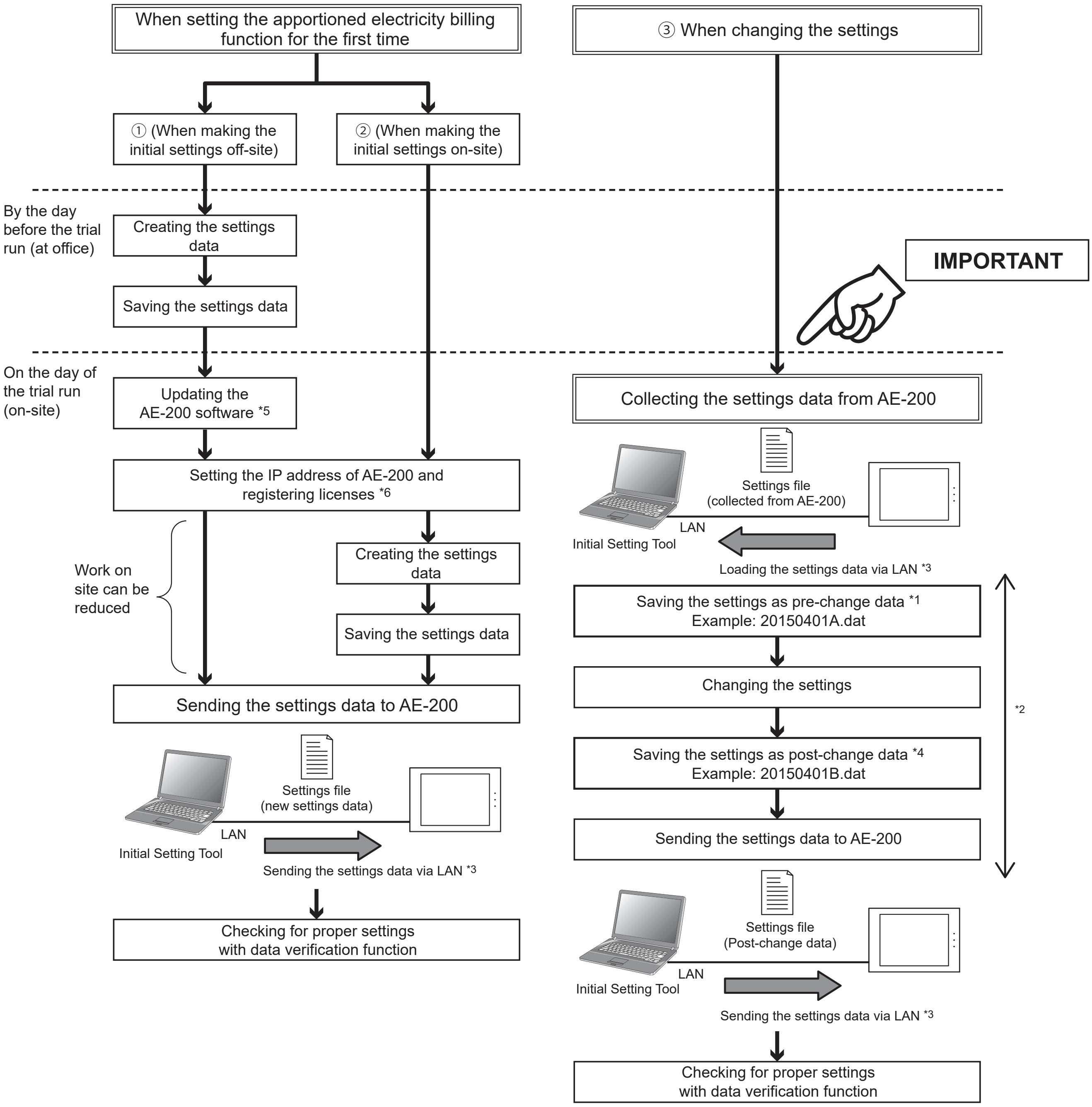

Newly creating settings file
Saving the settings file
Loading the settings file
Settings file
Sending the setting status
Acquiring the setting status
AE-200
Initial Setting Tool

6-3-2. Flow of the initial settings on Initial Setting Tool

Follow the procedures from step ③ onwards to make the initial settings for the apportioned electricity billing function.

As shown in flow ① below, settings data can be created beforehand at another location, such as office, to send it to the centralized controller on the day of the trial run. When changing the settings, collect the settings data from AE-200 before the change as shown in step ③ .

To change the existing AE-200/AE-50/EW-50 settings, make sure to **collect the settings data from AE-200** before the change. If this process is skipped, incorrect settings data will overwrite the existing settings.


When setting the apportioned electricity billing function for the first time
③ When changing the settings
① (When making the initial settings off-site)
② (When making the initial settings on-site)
By the day before the trial run (at office)
Creating the settings data
Saving the settings data
IMPORTANT
On the day of the trial run (on-site)
Updating the AE-200 software *5
Collecting the settings data from AE-200
Settings file (collected from AE-200)
LAN
Initial Setting Tool
Loading the settings data via LAN *3
Setting the IP address of AE-200 and registering licenses *6
Work on site can be reduced
Creating the settings data
Saving the settings data
Saving the settings as pre-change data *1 Example: 20150401A.dat
Changing the settings
*2
Saving the settings as post-change data *4 Example: 20150401B.dat
Sending the settings data to AE-200
Sending the settings data to AE-200
Settings file (new settings data)
LAN
Initial Setting Tool
Sending the settings data via LAN *3
Settings file (Post-change data)
LAN
Initial Setting Tool
Sending the settings data via LAN *3
Checking for proper settings with data verification function
Checking for proper settings with data verification function

*1 To change the existing AE-200/AE-50/EW-50 settings, make sure to save the settings file (collected from AE-200) before the change.

*2 After the settings data are loaded on the Initial Setting Tool and the changes are made, do not change the settings on the AE-200's LCD or from the web browser until you finish sending the setting changes data.

*3 The settings data created on the Initial Setting Tool cannot be loaded or written to the AE-200 using a USB memory.

*4 Store the settings files set on the Initial Setting Tool (pre-change data and post-change data) in a safe place.

*5 Refer to the AE-200/AE-50 Installation Manual for how to update the software for AE-200/AE-50. Refer to the EW-50 Installation and Instructions Manual for how to update the software for EW-50.

*6 Refer to the AE-200/AE-50/EW-50 Instruction Book –Web Browser for Initial Settings– for how to change the IP address of AE-200/AE-50/EW-50 and how to register licenses.

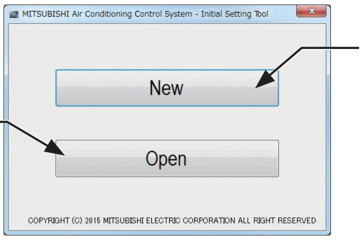
6-4. General descriptions of Initial Setting Tool

This section explains operation methods that are common to all setting screens of Initial Setting Tool.

6-4-1. Starting up the Initial Setting Tool

AE-200 Initial Setting Tool

The screen below will appear when the Initial Setting Tool is started up.



MITSUBISHI Air Conditioning Control System - Initial Setting Tool
New
Open
COPYRIGHT (C) 2015 MITSUBISHI ELECTRIC CORPORATION ALL RIGHT RESERVED

New
Click to newly create a settings file.

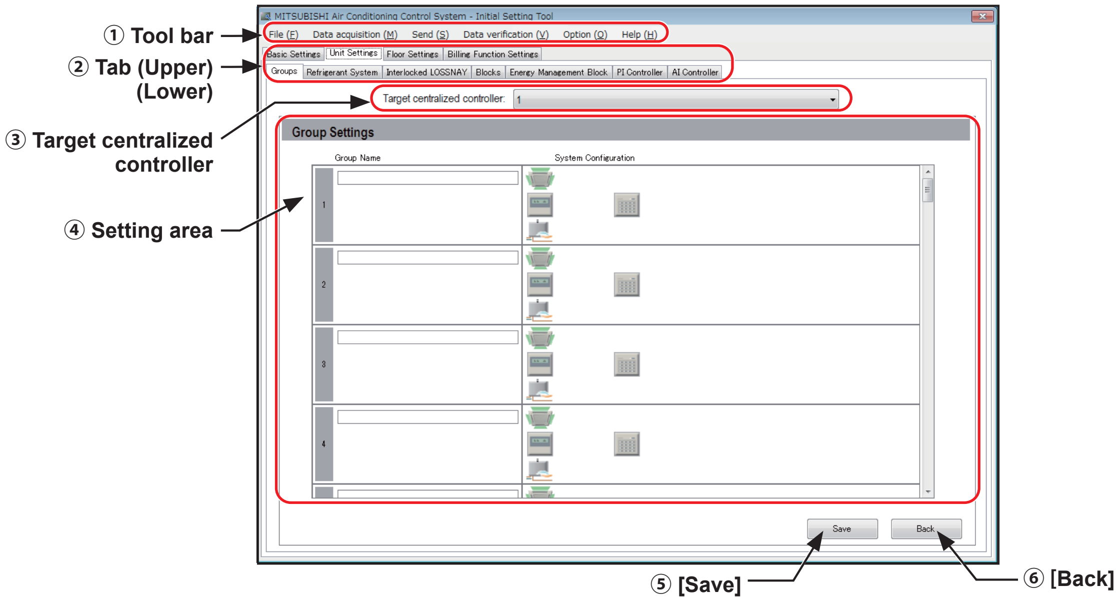
Open
Click to open the existing settings file

When [New] is clicked, all the settings in an unset status will be displayed.
When [Open] is clicked, the “Open” screen will be displayed. You can then select and load the settings file saved on the PC (filename.dat) which has been created beforehand. Once the settings file are loaded, the settings screen will be displayed with the settings in the file applied.

Note

- When [Open] is clicked, the “Library” > “Documents” folder will be selected for the first time. Select the file saved on the Initial Setting Tool.

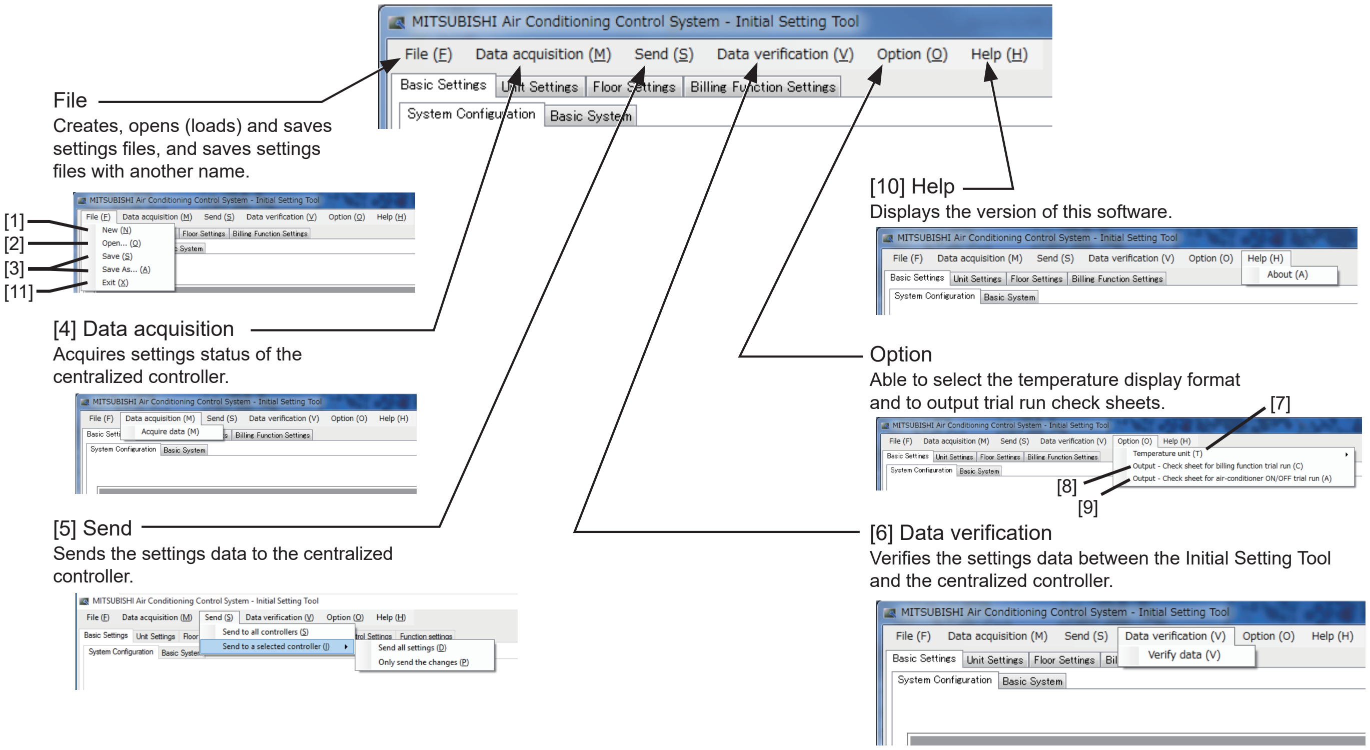
6-4-2. Screen configurations and common items


① Tool bar
② Tab (Upper)
(Lower)
③ Target centralized controller
④ Setting area
⑤ [Save]
⑥ [Back]
MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
Group Settings
Group Name
System Configuration
1
2
3
4
Save
Back

Target centralized controller: 1

	Function	Operation method	Description
①	Tool bar	Operations such as to create, save, load and send the settings files, and to monitor the status of the settings from the centralized controller are possible.	Refer to section 6-4-3 “List of tool bar operations”.
②	Tab	Click the tab to switch between setting screens. When the upper tabs are switched, the corresponding lower tabs will be displayed. Click the tab of which you want to make the settings.	When the “tab” of which you want to make the settings is clicked, settings screen will be displayed. Enter the settings data and then click [Save].
③	Target centralized controller	From the list of the centralized controllers with connection configuration set, select one to make the settings. Settings are required for each centralized controller.	Depending on the settings screen, this may not be displayed.
④	Setting area	The area in which settings are made.	Refer to sections 6-5 “Basic settings”, 6-6 “Unit settings”, and 6-7 “Billing function settings” for how to make settings.
⑤	[Save]	Click to save the settings in the Initial Setting Tool.	Even when [Save] is clicked, the settings data will not be sent to the AE-200/AE-50/EW-50. After all of the settings are completed, click [Send settings] in the tool bar to send it to the AE-200/AE-50/EW-50. Refer to section 6-4-3 [5] “Send” for details. Note also that even when saved, the settings are still not been saved in a settings file. To save a settings file, click [File] > [Save] or [Save As...] in the tool bar.
⑥	[Back]	Click to display the previous settings without making any changes.	

6-4-3. List of tool bar operations


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
System Configuration
Basic System
[1]
[2]
[3]
[11]
New (N)
Open... (O)
Save (S)
Save As... (A)
Exit (X)
Acquire data (M)
Send to all controllers (S)
Send to a selected controller (I)
Send all settings (D)
Only send the changes (P)
About (A)
[7]
[8]
[9]
Temperature unit (T)
Output - Check sheet for billing function trial run (C)
Output - Check sheet for air-conditioner ON/OFF trial run (A)
Verify data (V)

File

Creates, opens (loads) and saves settings files, and saves settings files with another name.

[4] Data acquisition

Acquires settings status of the centralized controller.

[5] Send

Sends the settings data to the centralized controller.

[10] Help

Displays the version of this software.

Option

Able to select the temperature display format and to output trial run check sheets.

[6] Data verification

Verifies the settings data between the Initial Setting Tool and the centralized controller.

[1] New

Click [File] > [New] in the tool bar to create a new “settings file”.

[2] Open

Click [File] > [Open] in the tool bar to load the “settings file” saved on the PC.

[3] Save

Click [File] > [Save] or [Save As...] in the tool bar to save a settings file on the PC.

Note

- After the settings are completed, save the settings file and store it in a safe place.
- The settings file will not be saved on the AE-200/AE-50/EW-50.

[4] Data acquisition

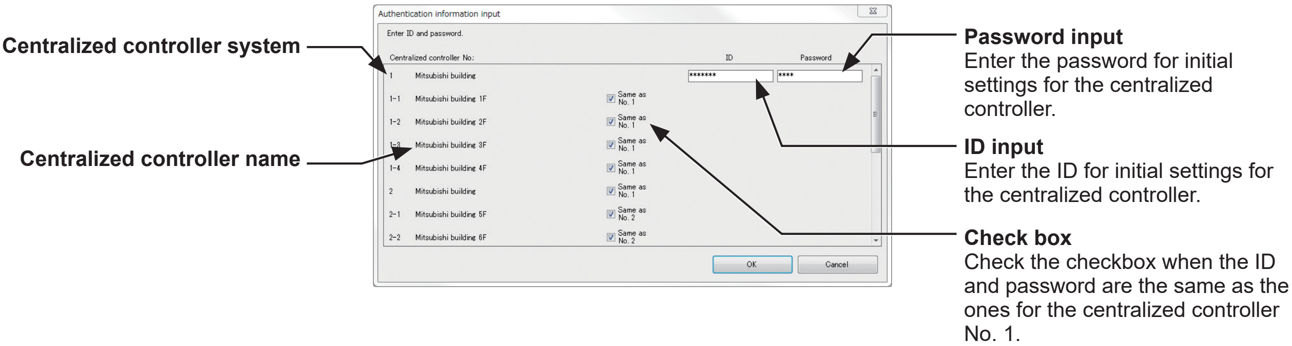
Loads the AE-200/AE-50/EW-50 settings data on the Initial Setting Tool.

Note

- When changing the AE-200/AE-50/EW-50 settings, make sure to select [Acquire data] first.

Procedures

1. Click [Basic Settings] > [System Configuration] and enter the IP address of the AE-200/AE-50/EW-50 from which the data is to be acquired. Then click [OK] at the bottom of the screen. (Refer to section 6-5-1 "System Configuration settings" for details.)
2. Click [Data acquisition] > [Acquire data] in the tool bar.
3. If the settings have been changed, a "Confirmation" screen will be displayed asking you to confirm the save operation. Select [Yes] to display the "Authentication information input" screen.



Centralized controller No:			ID	Password
1	Mitsubishi building		*******	****
1-1	Mitsubishi building 1F	☑ Same as No. 1		
1-2	Mitsubishi building 2F	☑ Same as No. 1		
1-3	Mitsubishi building 3F	☑ Same as No. 1		
1-4	Mitsubishi building 4F	☑ Same as No. 1		
2	Mitsubishi building	☑ Same as No. 1		
2-1	Mitsubishi building 5F	☑ Same as No. 2		
2-2	Mitsubishi building 6F	☑ Same as No. 2		

Centralized controller system

Centralized controller name

Password input
Enter the password for initial settings for the centralized controller.

ID input
Enter the ID for initial settings for the centralized controller.

Check box
Check the checkbox when the ID and password are the same as the ones for the centralized controller No. 1.

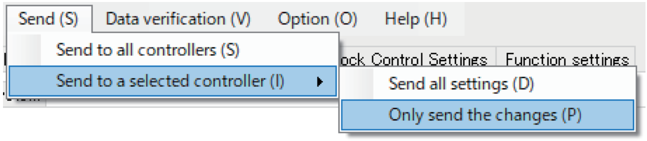
4. Enter the maintenance user ID and password of the centralized controller from which the data is to be acquired.
   If the ID and password are the same as ones for the centralized controller No. 1, check the "Same as No.1" checkbox.
5. Click [OK] to acquire the data of the settings on the centralized controller. The settings will then be applied on the Initial Setting Tool.

Note

- If data acquisition fails, the settings on the centralized controller registered in "System Configuration" will not be applied to the settings on the Initial Setting Tool.
  Refer to section 6-5-1 "System Configuration settings".

[5] Send

Send the settings to the centralized controller. Select the one that suits your usage from the three options below.



(1) Initial settings

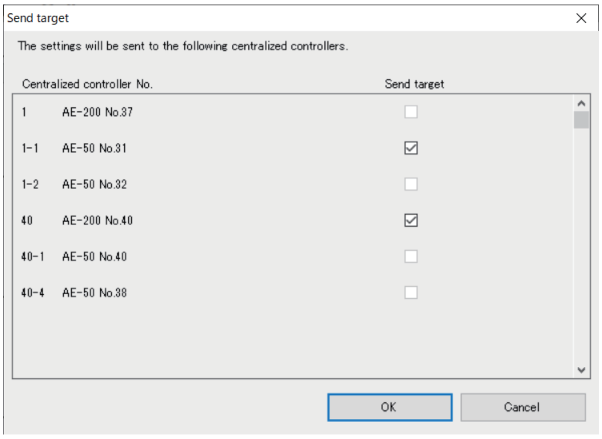
Click [Send] > [Send to all controllers] in the tool bar.

(2) Adding a unit or replacing the centralized controller due to malfunctions

Click [Send] > [Send to a selected controller] > [Send all settings] in the tool bar.

(3) Other than above

Click [Send] > [Send to a selected controller] > [Only send the changes] in the tool bar.



The settings will be sent to the following centralized controllers.

Centralized controller No.		Send target
1	AE-200 No.37	☐
1-1	AE-50 No.31	☑
1-2	AE-50 No.32	☐
40	AE-200 No.40	☑
40-1	AE-50 No.40	☐
40-4	AE-50 No.38	☐

When step (1) above is taken, the settings will be sent to all centralized controllers.
When step (2) or (3) above is taken, the send-target centralized controller will appear after all the centralized controllers are scanned for. (The send-targets cannot be selected.) Click [OK] to send the setting changes to the target centralized controllers.

Note

- This sends the settings data to all the centralized controller IP addresses set in “System Configuration” at once.
- Before sending the settings data, check that all the required settings are correctly made. All the items that are not set yet will be sent to the centralized controller as unset items.
- To change the settings, first save the acquired settings and make the setting changes before sending the settings data.

[6] Data verification

Checks whether there are mismatched data in the billing-related settings between the Initial Setting Tool and the centralized controller.
After sending the settings, using this function is recommended to check for proper settings in the centralized controller.
Refer to section 8 “Data verification” for details.

[7] Temperature unit

Click [Option] > [Temperature unit] in the tool bar to select the temperature display format on the Initial Setting Tool from Celsius (°C) and Fahrenheit (°F).

Note

- Switching between Celsius and Fahrenheit consists of changing the unit shown on the Initial Setting Tool and does not set the unit used on each of the centralized controllers. To change the unit shown on the centralized controllers, make the settings in “Unit of temperature” setting in [Basic Settings] > [Basic System].

[8] Output - Check sheet for billing function trial run

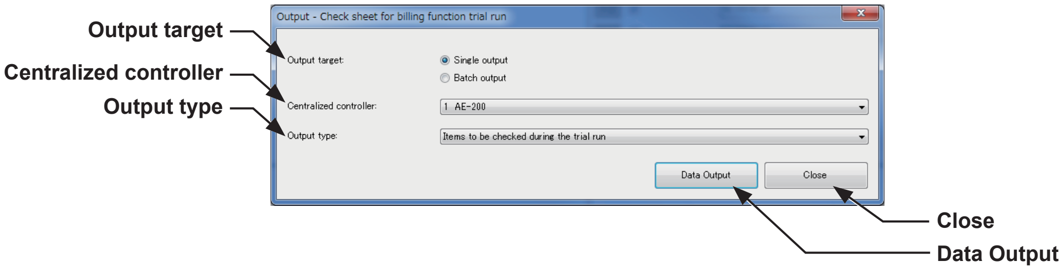
Click [Option] > [Output - Check sheet for billing function trial run] in the tool bar to output the check sheet used for billing function trial runs.

Note

- Microsoft® Excel® is required to be installed on the PC.
- The check sheet will be output based on the settings on the Initial Setting Tool.
  If the settings on the AE-200/AE-50/EW-50 and the Initial Setting Tool are not the same, the billing function trial will not run correctly. Be sure to complete [5] "Send" before starting the trial run.

Procedures

1. Click [Option] > [Output - Check sheet for billing function trial run] in the tool bar.



Output - Check sheet for billing function trial run

Output target: ● Single output ○ Batch output

Centralized controller: 1 AE-200

Output type: Items to be checked during the trial run

2. Click the pull-down menu (▼) for "Centralized controller" and select the number for the centralized controller to be output.

Note

- This centralized controller number is the one set in section 6-5-1 "System Configuration settings".
- To output the check sheet for all centralized controllers and all output types at once, select [Batch output] for "Output target".

3. Click the pull-down menu (▼) for "Output type" and select the [Items to be checked during the trial run] for the first trial run. For the second trial run, select [Items to be checked 10 days after the trial run]. For the third trial run, select [Items to be checked on the next day of the closing date].
4. Click [Data Output].
5. Set the file name and save destination and then click [Save]. (When [Batch output] is selected, only the save destination can be set.)

Note

- Refer to section 7 "Billing function trial run" for details of the check sheet.

[9] Output - Check sheet for air-conditioner ON/OFF trial run

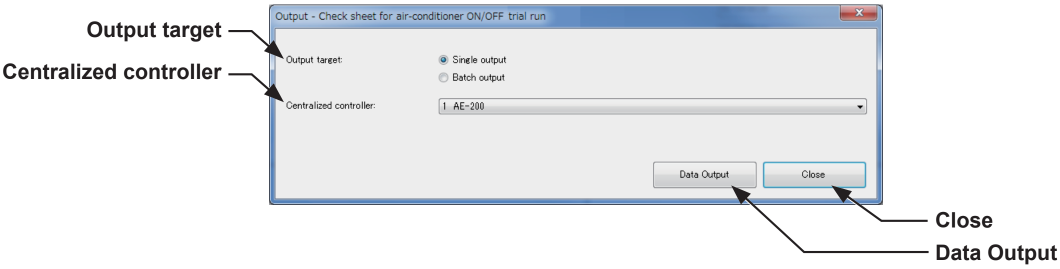
Click [Option] > [Output - Check sheet for air-conditioner ON/OFF trial run] in the tool bar to output the check sheet used for air-conditioner ON/OFF trial runs.

Note

- The check sheet will be output based on the settings on the Initial Setting Tool.
  If the settings on the AE-200/AE-50/EW-50 and the Initial Setting Tool are not the same, the air-conditioner ON/OFF trial will not run correctly. Be sure to complete [5] "Send" before starting the trial run.

Procedures

1. Click [Option] > [Output - Check sheet for air-conditioner ON/OFF trial run] in the tool bar.



Output - Check sheet for air-conditioner ON/OFF trial run

Output target: ● Single output ○ Batch output

Centralized controller: 1 AE-200

2. Click the pull-down menu (▼) for "Centralized controller" and select the number for the centralized controller to be output.

Note

- This centralized controller number is the one set in section 6-5-1 "System Configuration settings".
- To output the check sheet for all centralized controllers at once, select [Batch output] for "Output target".

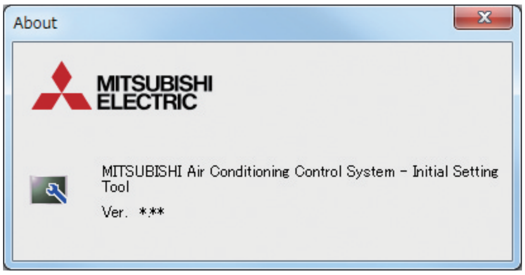
3. Click [Data Output].
4. Set the file name and save destination and then click [Save]. (When [Batch output] is selected, only the save destination can be set.)

Note

- Refer to the Instruction Book –Initial Settings– for the contents of the check sheet.
- When the PC with Initial Setting Tool installed and the centralized controller are connected via a LAN, the license registration status can be output in the check sheet.

[10] Help

Click [Help] > [About] in the tool bar to display the version of the current Initial Setting Tool.



About

MITSUBISHI Air Conditioning Control System - Initial Setting Tool

Ver. ***

[11] Exit

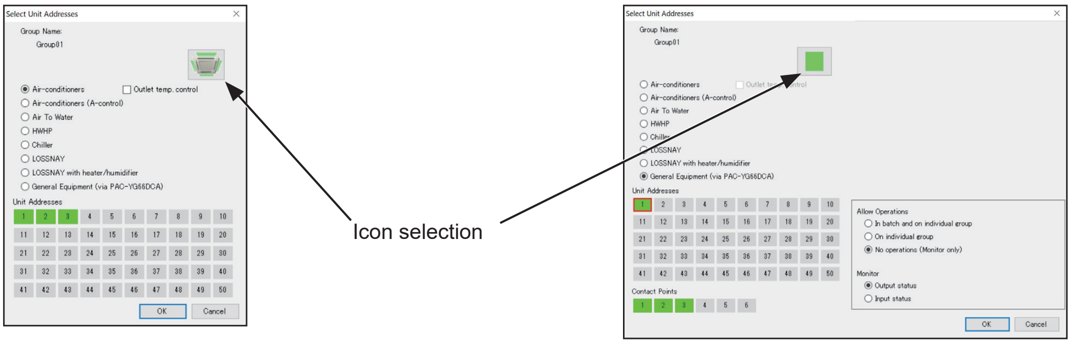
Click [File] > [Exit] in the tool bar to exit the Initial Setting Tool.

6-4-4. Unit address selection screen

On unit address selection screen and group registration screen displayed from the group settings screen, the selectable unit addresses and groups will be displayed.

When an icon is clicked and selected, the background will change to yellow-green. To deselect an icon, click the icon again and it will then turn into deselected status (the background will change to light gray). Click [OK] to complete the selections and close the screen. Click [Cancel] to cancel your selections and close the screen. Addresses and groups that have already been registered elsewhere will be in gray background and will not be able to be selected.

On unit address selection screen displayed from the group settings screen, an icon can be changed. To change an icon, click the icon selection button. Select the desired icon on the group icon selection screen. The selected icon will be displayed on the AE-200/AE-50's LCD and in the AE-200/AE-50/EW-50 web browser.



Group other than general equipment group

Select Unit Addresses

Group Name:
Group01

● Air-conditioners ☐ Outlet temp. control
○ Air-conditioners (A-control)
○ Air To Water
○ HWHP
○ Chiller
○ LOSSNAY
○ LOSSNAY with heater/humidifier
○ General Equipment (via PAC-YG66DCA)

Unit Addresses

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

General equipment group

Select Unit Addresses

Group Name:
Group01

○ Air-conditioners ☐ Outlet temp. control
○ Air-conditioners (A-control)
○ Air To Water
○ HWHP
○ Chiller
○ LOSSNAY
○ LOSSNAY with heater/humidifier
● General Equipment (via PAC-YG66DCA)

Unit Addresses

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

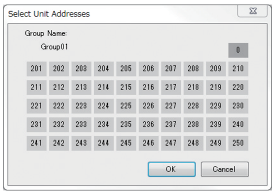
Contact Points

1	2	3	4	5	6

Allow Operations
○ In batch and on individual group
○ On individual group
● No operations (Monitor only)

Monitor
● Output status
○ Input status

System controller

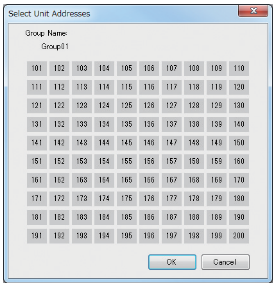


Select Unit Addresses

Group Name:
Group01

201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250

Remote controller

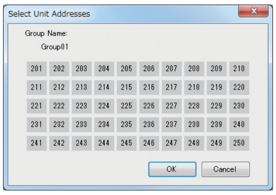


Select Unit Addresses

Group Name:
Group01

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

AHC

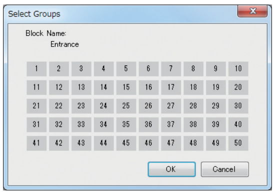


Select Unit Addresses

Group Name:
Group01

201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250

Block settings

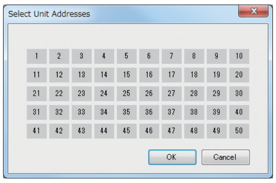


Select Groups

Block Name:
Entrance

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

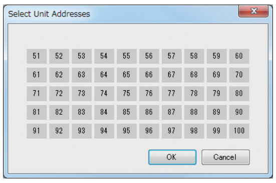
Refrigerant system (indoor unit) settings, Interlocked LOSSNAY settings, AI controller settings



Select Unit Addresses

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

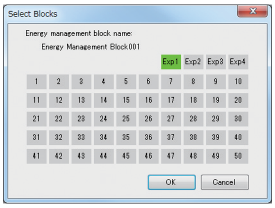
Refrigerant system (outdoor unit) settings



Select Unit Addresses

51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Energy management block settings

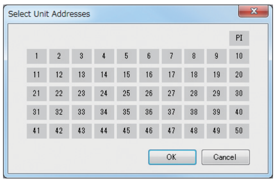


Select Blocks

Energy management block name:
Energy Management Block001

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

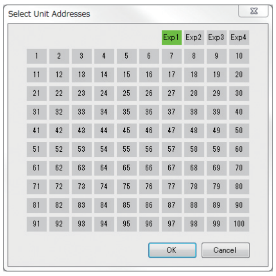
PI controller settings



Select Unit Addresses

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Metering device settings



Select Unit Addresses

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

6-4-5. Other settings

- Up to 40 characters can be entered as the name on the basic system settings screen. Up to 20 characters can be entered as names in other setting screens.
- The following characters cannot be used for name settings: <, >, &, “, or ‘

6-4-6. Preparation and flow of the Initial Setting Tool

To change the AE-200/AE-50/EW-50 settings (for systems with initial settings already made), make sure to first acquire data of the settings status using the Initial Setting Tool and then follow the procedure below. If you follow a different procedure, the settings may not be correctly made.

Procedures

1. Connect the AE-200/AE-50/EW-50 to a PC (the Initial Setting Tool) via a LAN.
2. Start up the Initial Setting Tool.
3. Click [New] or [Open].
   To load a settings file stored on the PC, select [Open].
   Otherwise, select [New].
4. Register the IP address of the AE-200/AE-50/EW-50 in [Basic Settings] > [System Configuration].
   Refer to section 6-5-1 “System Configuration settings” for details.
5. Click [Data acquisition] > [Acquire data] in the tool bar to load the AE-200/AE-50/EW-50 settings information onto the Initial Setting Tool.

   * Enter the user ID and password for an AE-200/AE-50/EW-50 maintenance user.
6. Click [File] > [Save As...] in the tool bar to save the pre-change initial settings data.

   Note

   - For backup purposes, save the pre-change settings file under a file name such as “date + pre-change”.
   - At this point, the settings will not be sent to the AE-200/AE-50/EW-50.
7. Change the initial settings. Refer to sections 6-5 “Basic settings”, 6-6 “Unit settings”, and 6-7 “Billing function settings”.
8. Click [File] > [Save As...] in the tool bar to save the settings data on the PC.

   Note

   - Save the data using a different name to the pre-change settings file, such as “date + post-change”.
   - At this point, the settings will not be saved on the AE-200/AE-50/EW-50.
9. Click [Send] > [Send to all controllers] to overwrite the AE-200/AE-50/EW-50 settings data registered in System Configuration settings.

6-5. Basic settings

6-5-1. System Configuration settings

Make the configuration settings of centralized controllers and expansion controllers on the Initial Setting Tool.
Click [Basic Settings] > [System Configuration] to access the system configuration settings screen.

Note

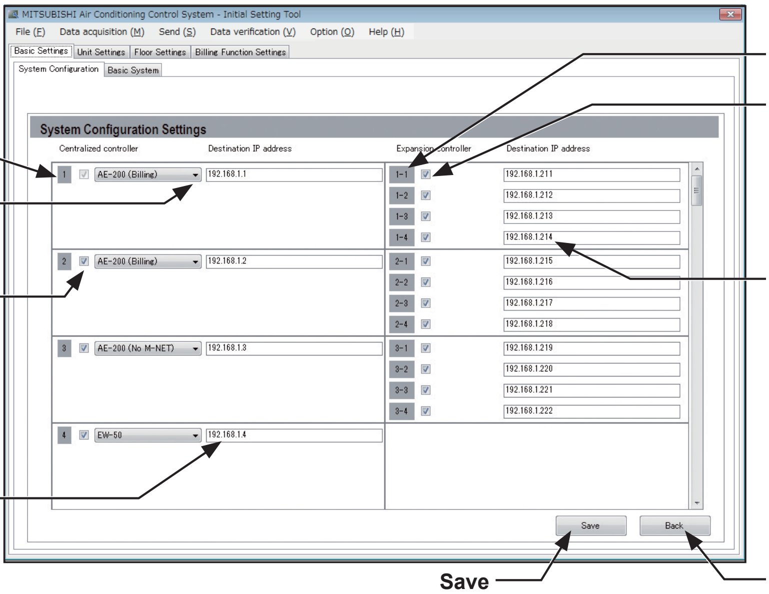
- Connection settings can be made for up to 40 centralized controllers.
  AE-200 units set as the [AE-200 (Billing)] or [AE-200 (No M-NET)] will not be included in this 40 controllers.
- The connection destination IP address of the expansion controller must be set with the AE-200 beforehand.
  Refer to section 6-2-2 “AE-200 unit settings” for how to make AE-200 unit settings.

Procedures

1. Click the “Controller type” pull-down menu (▼) and select [AE-200 (Billing)].
2. Enter the IP address of the AE-200 in “Destination IP address”.
3. Click the “Expansion controller” checkbox according to the number of expansion controllers.
4. Enter the IP address of the AE-50/EW-50 in “Destination IP address”.
5. If there are multiple AE-200 units, click the “Centralized controller” checkbox and repeat procedures 1 to 4.
6. Click [Save] after completing the settings.

Note

- The selectable options vary depending on the type of centralized controller selected in the “Controller type” of Centralized controller.
- The AE-200/AE-50/EW-50 IP address cannot be changed in this setting screen.
  To set the AE-200/AE-50/EW-50 IP address, set on the Initial Setting Tool (Basic System settings), AE-200/AE-50’s LCD, or the web browser for initial settings.
- The centralized controller No. and expansion controller No. set here will be used for name display on the Integrated Centralized Control Web. Refer to the Instruction Book –Integrated Centralized Control Web– for details.



Centralized controller			Destination IP address
1	☑	AE-200 (Billing)	192.168.1.1
2	☑	AE-200 (Billing)	192.168.1.2
3	☑	AE-200 (No M-NET)	192.168.1.3
4	☑	EW-50	192.168.1.4

Expansion controller		Destination IP address
1-1	☑	192.168.1.211
1-2	☑	192.168.1.212
1-3	☑	192.168.1.213
1-4	☑	192.168.1.214
2-1	☑	192.168.1.215
2-2	☑	192.168.1.216
2-3	☑	192.168.1.217
2-4	☑	192.168.1.218
3-1	☑	192.168.1.219
3-2	☑	192.168.1.220
3-3	☑	192.168.1.221
3-4	☑	192.168.1.222

Centralized controller No.

Controller type
Set the centralized controller type.

Centralized controller
Check the checkbox to add a centralized controller. The checkbox of the first row is checked and cannot be unchecked.

Destination IP address
Set the IP address of the centralized controller.

Expansion controller No.

Expansion controller
Check the checkbox to add an expansion controller.

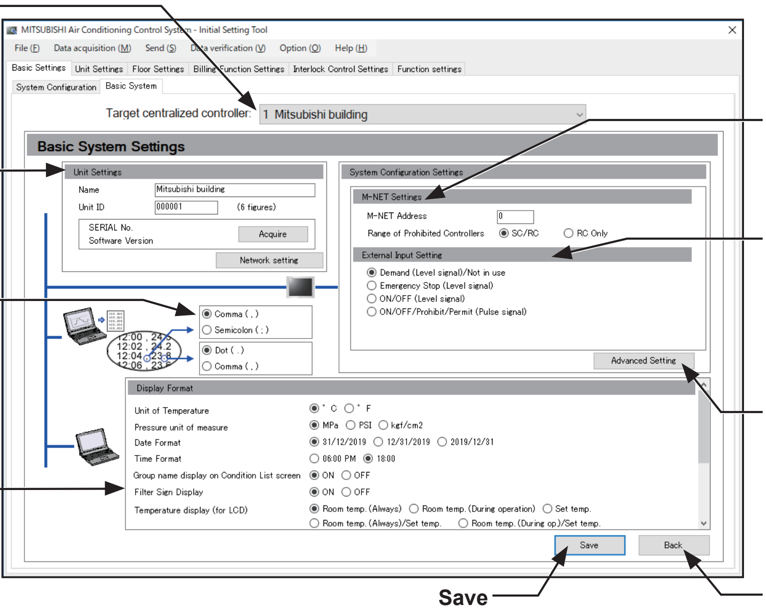
Destination IP address
Set the IP address of the expansion controller.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

6-5-2. Basic System settings

Click [Basic Settings] > [Basic System] to access the basic system settings screen.
Make necessary basic system settings such as unit settings and M-NET settings for each centralized controller.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Interlock Control Settings
Function settings
System Configuration
Basic System
Basic System Settings
Acquire
Network setting
Advanced Setting
Save
Back
12:00 , 24.5
12:02 , 24.2
12:04 , 23.8
12:06 , 23.6

Target centralized controller: 1 Mitsubishi building

Unit Settings
Name: Mitsubishi building
Unit ID: 000001 (6 figures)
SERIAL No.
Software Version

● Comma (,) ○ Semicolon (;)
● Dot (.) ○ Comma (,)

System Configuration Settings
M-NET Settings
M-NET Address: 0
Range of Prohibited Controllers: ● SC/RC ○ RC Only
External Input Setting
● Demand (Level signal)/Not in use
○ Emergency Stop (Level signal)
○ ON/OFF (Level signal)
○ ON/OFF/Prohibit/Permit (Pulse signal)

Display Format
Unit of Temperature: ● ° C ○ ° F
Pressure unit of measure: ● MPa ○ PSI ○ kgf/cm2
Date Format: ● 31/12/2019 ○ 12/31/2019 ○ 2019/12/31
Time Format: ○ 06:00 PM ● 18:00
Group name display on Condition List screen: ● ON ○ OFF
Filter Sign Display: ● ON ○ OFF
Temperature display (for LCD): ● Room temp. (Always) ○ Room temp. (During operation) ○ Set temp. ○ Room temp. (Always)/Set temp. ○ Room temp. (During op.)/Set temp.

Target centralized controller
Select the connected centralized controller whose basic settings are to be made.

Unit Settings
Set the centralized controller name and unit ID. The serial number and the software version can be acquired.

Decimal point character and separator character for CSV file
Set the format of the CSV file that is output from the centralized controller.

Display Format
Set the screen display items for the centralized controller and the Web browser.

M-NET Settings
Set the M-NET address and range of prohibited controllers.

External Input Setting
Set the external signal input mode.

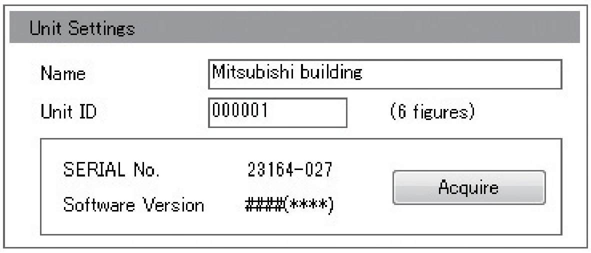
Advanced Setting
Click to display the screen for making advanced settings.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

[1] Unit Settings

Set the AE-200/AE-50/EW-50 unit name and unit ID in "Unit Settings".
Clicking [Acquire] will start communication with the AE-200/AE-50/EW-50 selected in "Target centralized controller", and its serial number and software version will be displayed.



Unit Settings
Name: Mitsubishi building
Unit ID: 000001 (6 figures)
SERIAL No. 23164-027
Software Version ####(****)

Procedures

1. Enter the unit name in "Name" in 40 characters or less. The name entered here will be used as a sender name in the error notification e-mail and e-mail alarm.
2. Enter the unit ID in "Unit ID" in 6 figures. Use this setting to manage the multiple unit IDs.

Note

- The unit name and the unit ID can be set for each centralized controller that can be selected in "Target centralized controller".
- The name entered here will be displayed in "Target centralized controller".
- The unit ID will be used as a sender ID in the error notification e-mail and e-mail alarm.
- When the software is updated, check that the ####(****) in "Software Version" is the same as the # of the update file (AExx_FW####_****.dat).
  For example, if the AE-200 software version is 7.30 (1.05), the update file name is "AE200_FW0730_0105.dat".

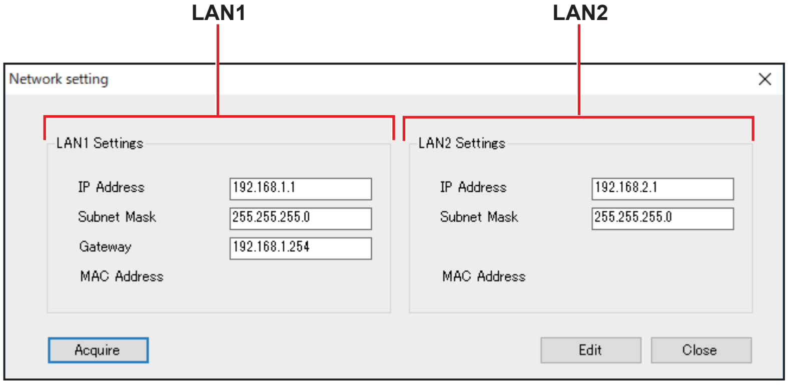
[2] Network Settings

Click the [Network setting] button to access the network settings screen.

Note

- LAN2 is exclusively used for BACnet® function. For BACnet® function settings, refer to the Instruction Book (BACnet® function).
- Although the settings for LAN1 and LAN2 will appear on the screen, only the settings for LAN1 is required. However, only when the LAN1 IP address is required to be set to [192.168.2.1], change the default LAN2 IP address to avoid address overlap.
- After the AE-200 IP address is changed, the AE-50/EW-50 power will be reset.

Clicking [Acquire] will communicate with AE-200/AE-50/EW-50 selected as “Target centralized controller,” and display the current network settings.
Clicking [Edit] will reflect the network settings to the target centralized controller, then the target centralized controller will be reset.



LAN1 Settings
IP Address: 192.168.1.1
Subnet Mask: 255.255.255.0
Gateway: 192.168.1.254
MAC Address

LAN2 Settings
IP Address: 192.168.2.1
Subnet Mask: 255.255.255.0
MAC Address

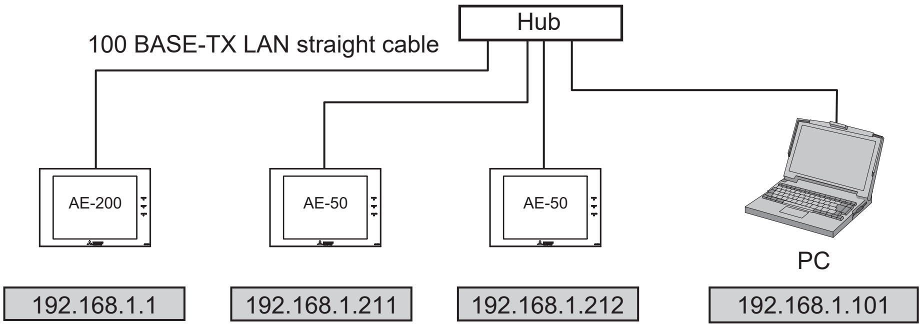
(1) Settings for connecting the AE-200/AE-50/EW-50 to a dedicated LAN

1. Enter the AE-200, AE-50, or EW-50’s IP address in the [IP Address] field. If the LAN has been newly set up, allocate IP addresses to the AE-200 units in a sequential order starting with [192.168.1.1]. For example, the first AE-200 unit will have an IP address of [192.168.1.1], the second AE-200 unit will have an IP address of [192.168.1.2] and so on.
   Allocate IP addresses to the AE-50/EW-50 units in a sequential order starting with [192.168.1.211].

   Note

   - The recommended IP address ranges are as follows.
     AE-200: Between [192.168.1.1] and [192.168.1.40]
     AE-50/EW-50: Between [192.168.1.211] and [192.168.1.249]
     PC: Between [192.168.1.101] and [192.168.1.150]

   [IP address setting example]



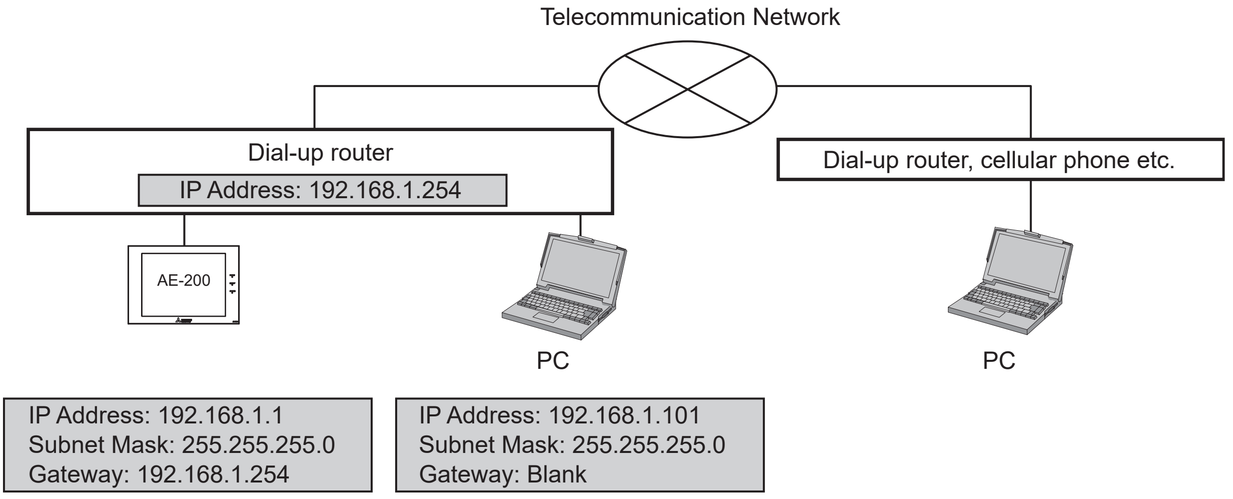
   Note

   - Some hubs have dedicated ports for connection with another hub.
     Connect the AE-200/AE-50/EW-50 and PC to the normal ports.

2. Enter [255.255.255.0] in the [Subnet Mask] field (unless otherwise specified).

3. When monitoring the system remotely or using e-mail function via a dial-up router, enter the router IP address in the [Gateway] field.
   Leave the [Gateway] field blank when not connecting a dial-up router.

[Remote Monitoring System example]


Telecommunication Network
Dial-up router
IP Address: 192.168.1.254
Dial-up router, cellular phone etc.
AE-200
PC
PC
IP Address: 192.168.1.1
Subnet Mask: 255.255.255.0
Gateway: 192.168.1.254
IP Address: 192.168.1.101
Subnet Mask: 255.255.255.0
Gateway: Blank

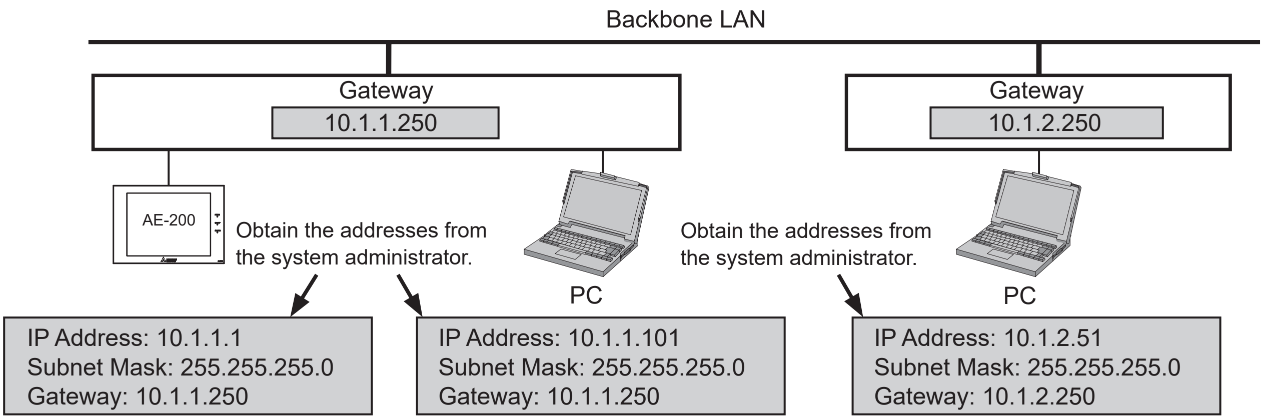
Note

- [192.168.1.254] is recommended for use as the IP address of the dial-up router. Refer to the dial-up router instruction manual for details of how to set the IP address.
- The use of a dial-up router with no modem requires a modem (for analog or ISDN) to be connected between the router and the public phone line.

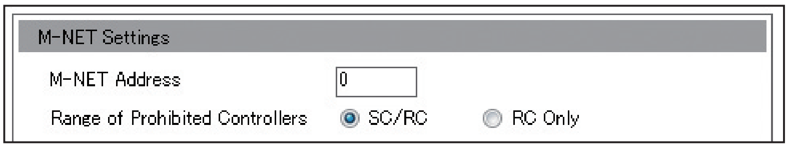
(2) Settings for connecting the AE-200/AE-50/EW-50 to an existing LAN

1. When connecting the AE-200/AE-50/EW-50 to an existing LAN, consult the system administrator to decide the IP, subnet mask, and gateway addresses.

[Existing LAN System example]


Backbone LAN
Gateway
10.1.1.250
Gateway
10.1.2.250
AE-200
Obtain the addresses from the system administrator.
PC
Obtain the addresses from the system administrator.
PC
IP Address: 10.1.1.1
Subnet Mask: 255.255.255.0
Gateway: 10.1.1.250
IP Address: 10.1.1.101
Subnet Mask: 255.255.255.0
Gateway: 10.1.1.250
IP Address: 10.1.2.51
Subnet Mask: 255.255.255.0
Gateway: 10.1.2.250

[3] M-NET settings



M-NET Settings

M-NET Address: 0

Range of Prohibited Controllers ● SC/RC ○ RC Only

Procedures

1. Enter [0] in “M-NET Address” (unless otherwise specified).
2. When the local remote controller operation is prohibited on the centralized controller, this setting determines the scope of its applicability. Select [SC/RC] to prohibit the operation from both the sub system controllers and the remote controllers. Select [RC Only] to prohibit the operation only from the remote controllers.

[4] External Input setting

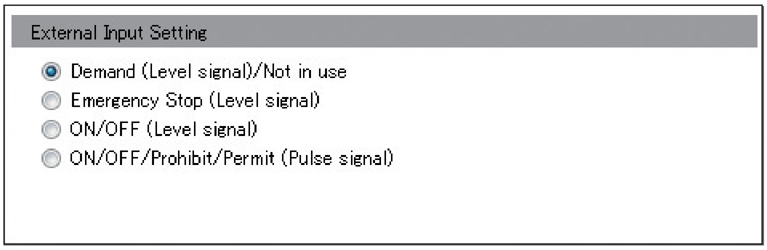
In “External Input Setting” column, set the external contact input function. Using a level signal or pulse signal of the external contact input function, the air conditioning units can be collectively controlled (e.g., stopped, operated) via a separately-sold external input/output adapter (PAC-YG10HA-E).

Note

- Peak Cut control is performed based on the demand level signal (level 1 to 4) input from the connected demand controller.
- A separate license is required to use the Peak Cut function.
- The external input setting is required for each AE-200/AE-50/EW-50.

Important

- Refer to the AE-200 Technical Manual for details.



External Input Setting

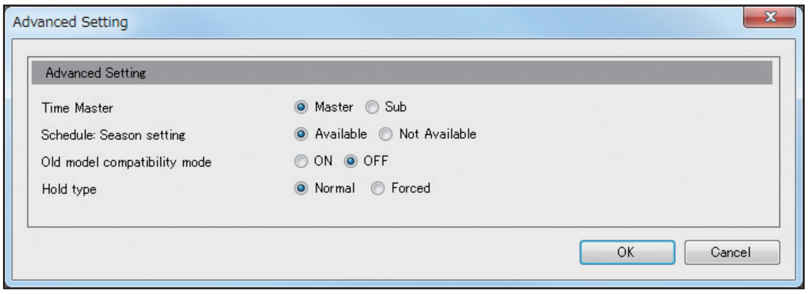
● Demand (Level signal)/Not in use
○ Emergency Stop (Level signal)
○ ON/OFF (Level signal)
○ ON/OFF/Prohibit/Permit (Pulse signal)

Procedures

1. Select one of the following options, referring to the AE-200 Technical Manual: [Demand (Level signal)/Not in use], [Emergency Stop (Level signal)], [ON/OFF (Level signal)], [ON/OFF/Prohibit/Permit (Pulse signal)].

[5] Advanced Settings

Click [Advanced Setting] to open the advanced settings screen.



Advanced Setting

Time Master: ● Master ○ Sub
Schedule: Season setting: ● Available ○ Not Available
Old model compatibility mode: ○ ON ● OFF
Hold type: ● Normal ○ Forced

(1) Time Master/Sub

Procedures

1. In “Time Master”, select [Master] or [Sub]. When using two AE-200 units to operate and monitor the connected units, set to [Master] on only one AE-200, and set to [Sub] on the other AE-200.
   The date and time synchronization is performed from the AE-200 whose “Time Master” setting is set to [Master] to the AE-200 whose “Time Master” setting is set to [Sub].

Note

- When BACnet®*1 is connected, the “Time Master” setting differs. For BACnet® connection, refer to the AE-200/AE-50/EW-50 Instruction Book –BACnet® function–.

*1 BACnet® is a registered trademark of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, INC.).

Important

- When only one AE-200 unit is connected to the system, leave the default setting [Master] as it is.
- When multiple AE-50/EW-50 units are connected to the system, leave the default setting [Master] as it is on all AE-50/EW-50 units.

(2) Schedule: Season setting

Procedures

1. In “Schedule: Season setting”, select [Available] to enable the seasonal settings of the weekly schedules and [Not Available] to disable. Unless otherwise specified, leave the default setting [Available] as it is.

(3) Old model compatibility mode

Procedures

1. In “Old model compatibility mode”, select [ON] or [OFF].
   Select [ON] when not using a Dual set point function and the Prohibit Remote Controller function (Timer, Air Direction, Fan Speed).
   When some of the connected indoor units support a Dual set point function and some do not, selecting [ON] will mean that they all do not support the function.
   When some of the connected indoor units support the Prohibit Remote Controller function (Timer, Air Direction, Fan Speed) and some do not, selecting [ON] will mean that they all do not support the function.

(4) Hold type

Procedures

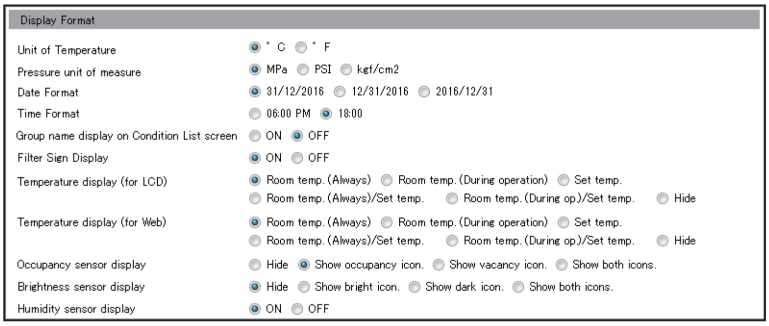
1. In “Hold type”, select [Normal] or [Forced].
   The Hold function is a function to disable the operations that were scheduled for air conditioning unit groups. If the setting for [Hold] is set to [ON] on the Monitor/Operation screen of the Integrated Centralized Control Web and the “Hold type” on the screen above is set to [Forced], the [Hold] setting can be cancelled only from the AE-200/AE-50/EW-50. If the “Hold type” is set to [Normal], the [Hold] setting can be cancelled from AE-200/AE-50/EW-50, other system controllers, or remote controllers.

Note

- The Hold function can be used on the AE-200A/AE-50A/EW-50A, but not on the AE-200E/AE-50E/EW-50E.
- The Hold function cannot be used on general equipments.
- The setting [Forced] will not be effective on Air To Water (PWFY) unit groups, LOSSNAY unit groups, and air conditioning unit groups that do not support the Hold function (i.e., Mr. Slim M-Series/P-Series indoor units).

[6] Display Format

Set the items in “Display Format”.



Display Format

Unit of Temperature ● ° C ○ ° F

Pressure unit of measure ● MPa ○ PSI ○ kgf/cm2

Date Format ● 31/12/2016 ○ 12/31/2016 ○ 2016/12/31

Time Format ○ 06:00 PM ● 18:00

Group name display on Condition List screen ○ ON ● OFF

Filter Sign Display ● ON ○ OFF

Temperature display (for LCD) ● Room temp. (Always) ○ Room temp. (During operation) ○ Set temp. ○ Room temp. (Always)/Set temp. ○ Room temp. (During op.)/Set temp. ○ Hide

Temperature display (for Web) ● Room temp. (Always) ○ Room temp. (During operation) ○ Set temp. ○ Room temp. (Always)/Set temp. ○ Room temp. (During op.)/Set temp. ○ Hide

Occupancy sensor display ○ Hide ● Show occupancy icon. ○ Show vacancy icon. ○ Show both icons.

Brightness sensor display ● Hide ○ Show bright icon. ○ Show dark icon. ○ Show both icons.

Humidity sensor display ● ON ○ OFF

Procedures

1. In “Unit of Temperature”, select the desired temperature unit.
2. In “Pressure unit of measure”, select the desired pressure unit.
3. In “Date Format”, select the desired display format for year, month, and date.
4. In “Time Format”, select the desired display of time format.
5. In “Group name display on Condition List screen”, select [ON] to display the group names under the icons on the Monitor/Operation screen, accessible via the Integrated Centralized Control Web. Select [OFF] not to display the group names.
6. In “Filter Sign Display”, select [ON] to display the filter sign on the Monitor/Operation screen, accessible via the Integrated Centralized Control Web, and select [OFF] not to.
   When the “Filter Sign Display” is set to [OFF], the filter sign will not appear on the Monitor/Operation screen even when the indoor unit detects a filter cleaning signal.
   If the filter is regularly cleaned and the sign display is unnecessary, set it to [OFF].
7. In “Temperature display (for LCD)”, select the desired display option for the room temperature or the set temperature to be used on the Floor or Block display on the LCD.
   In “Temperature display (for Web)”, select the desired display option for the room temperature or the set temperature to be used on the Floor Layout screen on the Integrated Centralized Control Web.
   Select [Room temp. (Always)] to display the room temperature at all times, [Room temp. (During operation)] to display the room temperature only during operation, [Set temp.] to display the set temperature at all times, [Room temp.(Always)/Set temp.] to display both the room temperature and set temperature at all times, [Room temp.(During op.)/Set temp.] to display the room temperature only during operation and to display the set temperature at all times, and [Hide] not to display the room temperature or the set temperature.

   Note

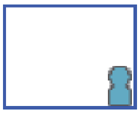
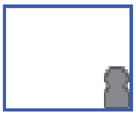
   - The room temperature shown may be higher than the actual temperature especially when the unit is stopped during the Heat mode. Therefore, selecting [Room temp. (During operation)] is recommended when displaying the room temperature.
8. In “Humidity sensor display”, make the Show/Hide setting for the humidity reading of the built-in humidity sensor on the ME remote controller (North America: PAR-U01MEDU, Other countries: PAR-U02MEDA). Select [ON] to display the humidity reading on the Monitor/Operation screen.

   Note

   - The table below summarizes the items that are displayed on the Monitor/Operation screen according to the combination of the settings for “Temperature display” and “Humidity sensor display.”

Humidity sensor display	Temperature display			
	[Room temp. (Always)] or [Room temp. (During operation)]	[Set temp.]	[Room temp.(Always)/ Set temp.] or [Room temp.(During op.)/ Set temp.]	Hide
OFF	Upper: Room temp. Lower: N/A	Upper: Set temp. Lower: N/A	Upper: Room temp. Lower: Set temp.	Upper: N/A Lower: N/A
ON	Upper: Room temp. Lower: Humidity	Upper: Set temp. Lower: Humidity	Upper: Room temp. Lower: Set temp.	Upper: N/A Lower: Humidity

9. In “Occupancy sensor display”, make the Show/Hide setting for the occupancy/vacancy status that is detected by the built-in occupancy sensor on the ME remote controller (North America: PAR-U01MEDU, Other countries: PAR-U02MEDA).

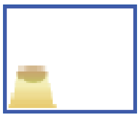
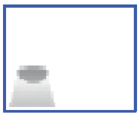
Occupancy icon	Vacancy icon
 (Blue)	 (Gray)

Select [Hide] not to display the occupancy/vacancy status on the Monitor/Operation screen.
Select [Show occupancy icon] to display the occupancy icon when the sensor on the remote controller detects occupancy.
Select [Show vacancy icon] to display the vacancy icon when the sensor on the remote controller detects vacancy.
Select [Show both icons] to display the occupancy or vacancy icon according to the occupancy status of the room.

Note

- If the ME remote controller has no built-in occupancy sensor, the occupancy/vacancy icons will not be displayed on the Monitor/Operation screen.

10. In “Brightness sensor display”, make the Show/Hide setting for the brightness/darkness status that is detected by the built-in brightness sensor on the ME remote controller (North America: PAR-U01MEDU, Other countries: PAR-U02MEDA).

Brightness icon	Darkness icon
 (Yellow)	 (Gray)

Select [Hide] not to display the brightness/darkness icons on the Monitor/Operation screen.
Select [Show bright icon] to display the brightness icon when the brightness level in the room reaches the predetermined brightness level.
Select [Show dark icon] to display the darkness icon when the darkness level in the room reaches the predetermined darkness level.
Select [Show both icons] to display the brightness or darkness icon according to the brightness/darkness level of the room.

[7] CSV file format settings (separator character and decimal point character)

Procedures

1. Set the format of the AE-200 CSV file (Energy management data, apportioned results, charges calculation results from the Charge Calculation Tool).

Important

- This setting must be the same with the “Decimal point character for CSV file” and “Separator character for CSV file” settings on the [Advanced Settings] screen on the Charge Calculation Tool. If the settings are not the same, an error message “The CSV file format is not appropriate. Check the directory from which the CSV file is acquired.” will appear.
- When multiple AE-200 units are connected, make the same settings for all of them.

[8] Saving the settings

Click [Save] after setting [1] to [6] above.

6-6. Unit settings

This section explains how to make unit settings on the Initial Setting Tool.

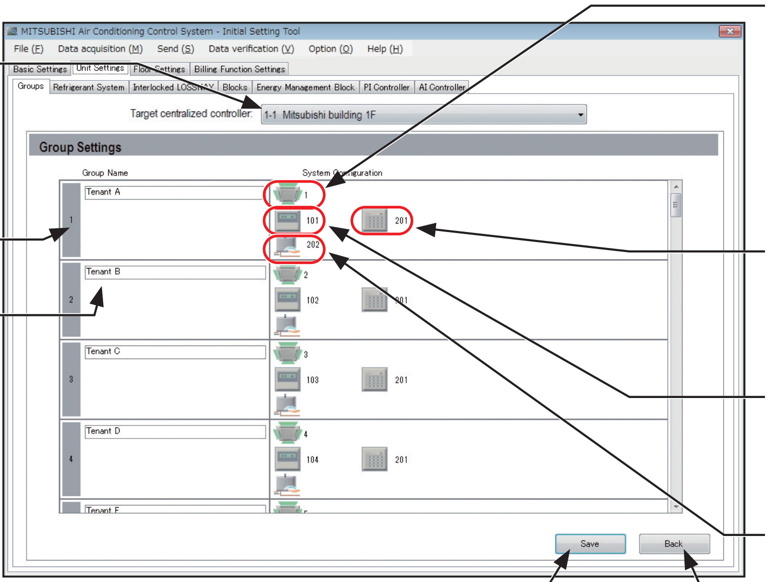
6-6-1. Group settings

Note

- Each group can contain up to 16 air conditioners.
- Air conditioners (City Multi indoor unit), Air conditioners (A-control), LOSSNAY units, Air To Water (PWFY) units, HWHP (CAHV, CRHV) units, chiller units, and general equipment groups cannot be combined in one group.
- HWHP (QAHV) units cannot be registered from the Initial Setting Tool. Register the HWHP (QAHV) units on the LCD.
- When registering LOSSNAY units, do not combine the units that support Night Purge function and the units that do not in one group.
- The addresses of the units that have been registered to other groups or used for the interlocked LOSSNAY settings, PI controller settings, or AI controller settings will appear with a gray background and cannot be selected.
- Register AK-control units to an [Air-conditioners] group.
- Changes made to the system currently running with the billing function can affect the billing calculation results. Run a test run after the changes were made to ensure all the settings are correctly set before handing the system over to the client. (Refer to section 7 “Billing function trial run”.)

Procedures

1. Click [Unit Settings] > [Groups] to access the group settings screen.
   Register the groups of air conditioning units, LOSSNAY units, OA Processing units, Air To Water (PWFY) units, HWHP (CAHV, CRHV) units, general equipment, remote controllers, system controllers, or AHC to be connected to the AE-200/AE-50/EW-50.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
Group Settings
Group Name
System Configuration
Save
Back

Target centralized controller: 1-1 Mitsubishi building 1F

Group No.	Group Name	System Configuration
1	Tenant A	1 101 201 202
2	Tenant B	2 102 201
3	Tenant C	3 103 201
4	Tenant D	4 104 201

Target centralized controller
Select the centralized controller whose group settings are to be made.

Group No.

Group name

Unit registration
Click to display the screen for registering the air conditioners, Air To Water (PWFY) units, LOSSNAY units, OA Processing units, HWHP (CAHV, CRHV) units, chiller units, and general equipment.

System controller registration
Click to display the screen for registering the system controllers.

Remote controller registration
Click to display the screen for registering the remote controllers.

AHC registration
Click to display the screen for registering the AHC.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. In “Group Name”, enter the group name in 20 characters or less.
3. Click the icon in “Unit registration” ( ) to display the unit address selection screen.
4. Select [Air-conditioners], [Air-conditioners (A-control)], [Air To Water], [HWHP], [Chiller], [LOSSNAY], or [General Equipment (via PAC-YG66DCA)].
5. Select the address numbers of the units to be registered.
6. When [General Equipment (via PAC-YG66DCA)] is selected, select the contact number that is connected to the general equipment to be registered.

7. To change the icon, click the right or left arrow.
   The selected icon will be displayed on the AE-200/AE-50's LCD and on the AE-200/AE-50/EW-50's Web browser.
8. When [General Equipment (via PAC-YG66DCA)] is selected, make the setting to allow or disallow operation in "Allow Operations".
   Select [In batch and on individual group] to allow the operator to turn on or off the general equipment collectively or by the groups.
   Select [On individual group] to allow the operator to turn on or off the general equipment by the groups.
   Select [No operations (Monitor only)] to disallow the operator to turn on or off the general equipment.
9. When [General Equipment (via PAC-YG66DCA)] is selected, in "Monitor", select which status will be used to reflect the units' ON/OFF status to the unit icons on the Monitor/Operation screen.
   Select [Output status] to use the status that is sent to the general equipment, and [Input status] to use the status that is sent from the general equipment.
10. Click [OK] after completing the settings.
11. Click the icon in "Remote controller registration" ( ) to display the unit address selection screen.
12. Select the address numbers of the ME remote controllers to be registered, and click [OK].

Note

- Each group can contain up to two ME remote controllers.
- Each group can contain up to four ME remote and system controllers combined.
- MA remote controllers do not need to be registered to a group.

13. Click the icon in "System controller registration" ( ) to display the unit address selection screen.
14. Select the address numbers of the system controllers to be registered, and click [OK].

Note

- Each group can contain up to four ME remote and system controllers combined.

15. Click the icon in "AHC registration" ( ) to display the unit address selection screen.
16. Select the address number of the AHC to be registered, and click [OK].

Note

- Each group can contain one AHC.

17. Click [Save] to save the settings.

Note

- Switch the "Target centralized controller" setting to make group settings for each centralized controller.
- The controllers to which [AE-200 (Billing)] or [AE-200 (No M-NET)] is set in section 6-5-1 "System Configuration settings" will not be displayed in "Target centralized controller".
- Up to six general equipment can be registered for each DIDO controller (PAC-YG66DCA). Each contact counts as one unit.
- Each group can contain up to 16 general equipment. (Each contact counts as one unit.)
- To register general equipment to a group to which units other than general equipment are already registered, delete the existing registration first before registering general equipment to it.
- General equipment groups cannot include remote controllers or system controllers.

6-6-2. Refrigerant System settings

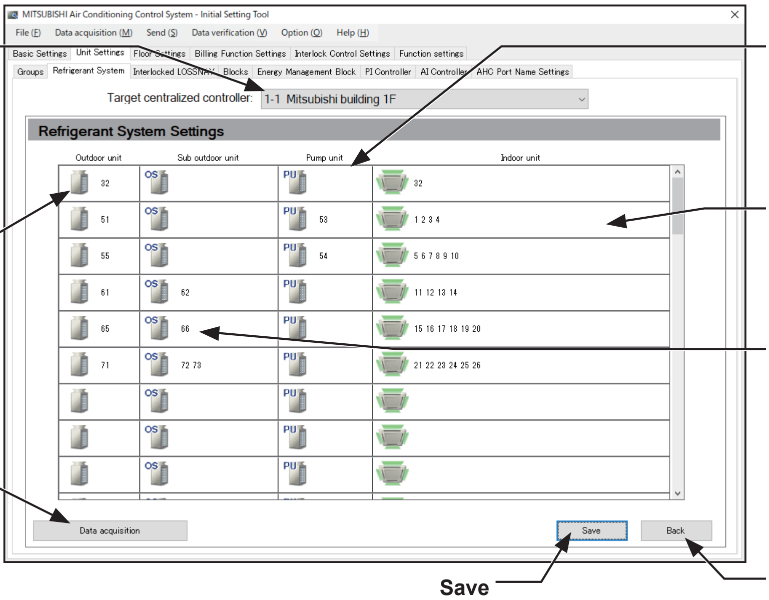
Refrigerant system information (connection information of outdoor, sub outdoor, and indoor units) can be set.

Note

- Changes made to the system currently running with the billing function can affect the billing calculation results. Run a test run after the changes were made to ensure all the settings are correctly set before handing the system over to the client. (Refer to section 7 "Billing function trial run".)

Procedures

1. Click [Unit Settings] > [Refrigerant System] to access the refrigerant system settings screen.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Interlock Control Settings
Function settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
AHC Port Name Settings
Refrigerant System Settings
Data acquisition
Save
Back

Target centralized controller: 1-1 Mitsubishi building 1F

Outdoor unit	Sub outdoor unit	Pump unit	Indoor unit
32			32
51		53	1 2 3 4
55		54	5 6 7 8 9 10
61	62		11 12 13 14
65	66		15 16 17 18 19 20
71	72 73		21 22 23 24 25 26

Target centralized controller
Select the connected centralized controller whose refrigerant system settings are to be made.

Outdoor unit registration
Click to display the screen for registering the outdoor units.

Data acquisition
Click to acquire the connection information of the actual unit from AE-50/EW-50 and replace the settings.

Pump unit registration
Click to display the screen for registering the pump units.

Indoor unit registration
Click to display the screen for registering the indoor units.

Sub outdoor unit registration
Click to display the screen for registering the sub outdoor units.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. Click [Data acquisition] with the units properly connected to acquire the connection information from AE-200.
3. Click the icon in "Outdoor unit registration" ( ) to display the unit address selection screen.
4. Select the address number of the outdoor unit to be registered, and click [OK].
5. Click the icon in "Sub outdoor unit registration" (OS) to display the unit address selection screen.
6. Select the address number of the sub outdoor unit to be registered, and click [OK].
7. (HVRF system only) Click the icon in "Pump unit registration" (PU) to display the unit address selection screen.
8. (HVRF system only) Select the address number of the pump unit to be registered, and click [OK].
9. Click the icon in "Indoor unit registration" ( ) to display the unit address selection screen.
10. Select the address number of the indoor unit to be registered, and click [OK].
11. Click [Save] to save the settings.

Note

- BC controller registration is not necessary.
- Ensure that these settings match the actual connection status. Also open [Initial Settings] > [System View] screen on the AE-200's LCD and check that the settings are the same. If the settings are not the same, the charges will not be properly calculated.
- If A-control units are group registered, the addresses of the A-control units will be displayed under "Indoor unit" or "Outdoor unit".
- If a "warning message" appeared during [Data acquisition], there may be an error in the air conditioner connection information and in the group setting, PI controller setting or AI controller setting on the Initial Setting Tool.
  Edit the settings, referring to the data acquisition results of the connection information from AE-200.

- The units displayed by executing [Data acquisition] are those connected to M-NET and are in operation status. Carry out data verification in section 8 “Data verification”, and change the settings according to the verification result.
- Adding or deleting the information on this screen will not change the actual refrigerant system.
- Not all the refrigerant system information may be acquired depending on the centralized controller’s start-up condition. In this case, add or change the information on this screen.
- If the displayed information acquired from the centralized controller differs from the actual system, restart the centralized controller or check the air conditioning units.

6-6-3. Interlocked LOSSNAY settings

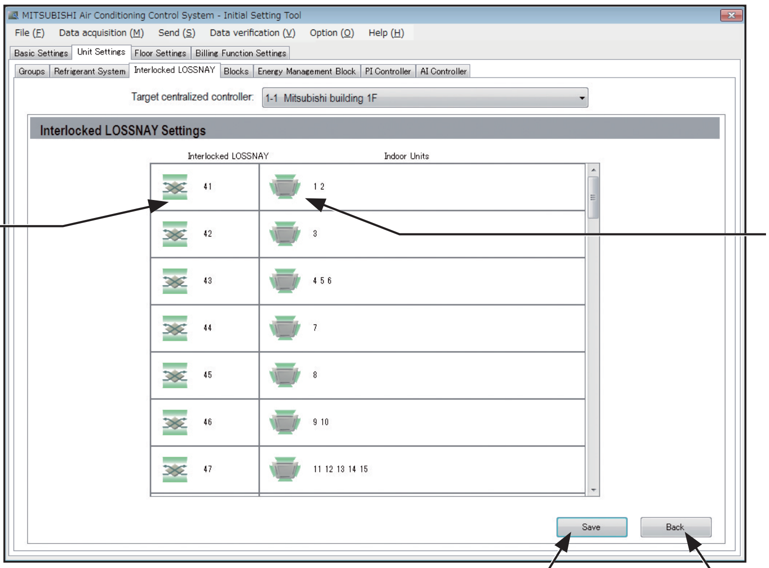
The ON/OFF status of the LOSSNAY or OA Processing unit can be interlocked with the operation of indoor units.

Note

- The ON/OFF status of the indoor units are not interlocked with the ON/OFF status of the LOSSNAY unit.

Procedures

1. Click [Unit Settings] > [Interlocked LOSSNAY] to access the interlocked LOSSNAY settings screen.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
Save
Back

Target centralized controller: 1-1 Mitsubishi building 1F

Interlocked LOSSNAY Settings

Interlocked LOSSNAY	Indoor Units
41	1 2
42	3
43	4 5 6
44	7
45	8
46	9 10
47	11 12 13 14 15

Interlocked LOSSNAY registration
Click to display the screen for registering the LOSSNAY unit to be interlocked.

Interlocked indoor unit registration
Click to display the screen for registering the indoor units with whose operations are to be interlocked.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. Click the icon in “Interlocked LOSSNAY registration” ( ) to display the unit address selection screen.
3. Select the address number of the LOSSNAY to be interlocked, and click [OK].
4. Click the icon in “Interlocked indoor unit registration” ( ) to display the unit address selection screen.
5. Select the address number of the indoor units with whose operations are to be interlocked, and click [OK]. Each LOSSNAY can be interlocked with up to 16 indoor units.
6. Click [Save] to save the settings.

6-6-4. Block settings

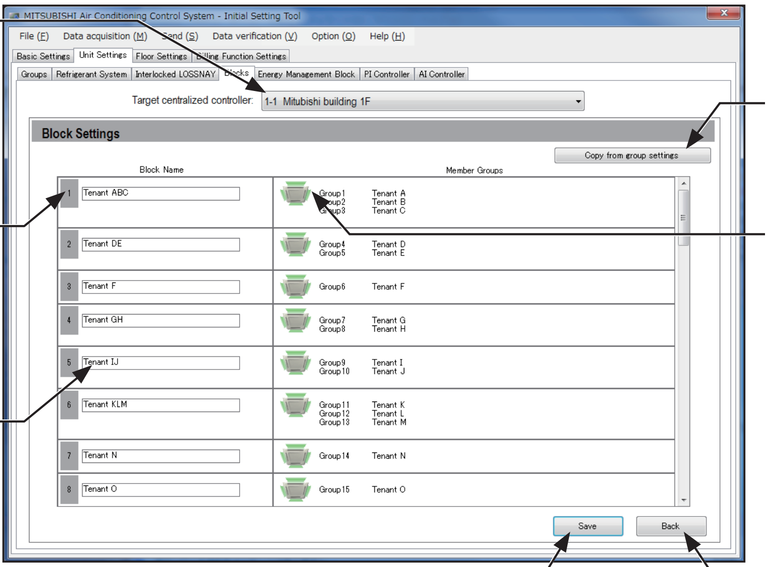
By making block settings, multiple groups in a given block can be collectively monitored or operated on the AE-200’s LCD and the Integrated Centralized Control Web.

Note

- When registering LOSSNAY units, do not combine the units that support Night Purge function and the units that do not in one block.
- Changes made to the system currently running with the billing function can affect the billing calculation results. Run a test run after the changes were made to ensure all the settings are correctly set before handing the system over to the client. (Refer to section 7 “Billing function trial run”.)

Procedures

1. Click [Unit Settings] > [Blocks] to access the block settings screen.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
Block Settings
Copy from group settings
Save
Back

Target centralized controller: 1-1 Mitubishi building 1F

	Block Name	Member Groups	
1	Tenant ABC	Group1 Group2 Group3	Tenant A Tenant B Tenant C
2	Tenant DE	Group4 Group5	Tenant D Tenant E
3	Tenant F	Group6	Tenant F
4	Tenant GH	Group7 Group8	Tenant G Tenant H
5	Tenant IJ	Group9 Group10	Tenant I Tenant J
6	Tenant KLM	Group11 Group12 Group13	Tenant K Tenant L Tenant M
7	Tenant N	Group14	Tenant N
8	Tenant O	Group15	Tenant O

Target centralized controller
Select one of the connected centralized controllers whose block settings are to be made.

Block No.

Block name

Copy from group settings
Click to create a block with the settings copied from the group settings.

Group registration
Click to display the screen for selecting groups.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. In “Block Name”, enter the block name in 20 characters or less.
   The name entered here will be displayed on the LCD and the Integrated Centralized Control Web.

Note

- Click [Copy from group settings] to create a block with the settings copied from the group settings.

3. Click the icon in “Group registration” ( ) to display the group selection screen.
4. Select the group numbers to be registered, and click [OK].
   (To show the group name, move the cursor to the group number.)
5. Click [Save] to save the settings.

6-6-5. Energy management block settings

Make the settings for the energy management block (tenant) used as collective unit for the apportioned electricity billing function.

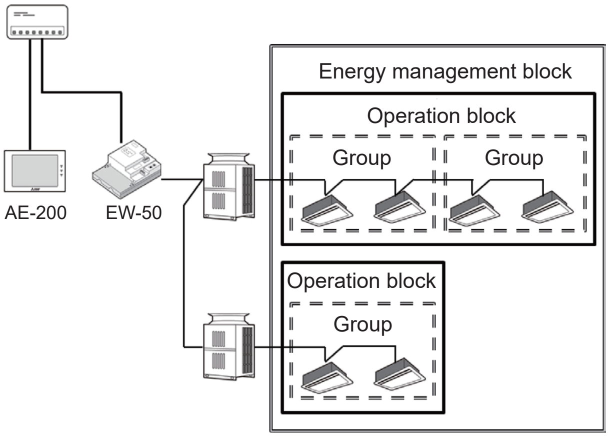
Note

- It is necessary to properly set energy management blocks in order to use the apportioned electricity billing function.

[1] General descriptions

(1) What is energy management block (tenant)?

- An energy management block (tenant) is the unit used for displaying and outputting charge calculation results.
- An energy management block (tenant) is a collection of operation blocks.
- An operation block is a collection of groups.



(2) LOSSNAY (including OA Processing unit) settings

Make the settings based on the LOSSNAY system configuration.

	Usage		Energy management block setting method
LOSSNAY	When not interlocked with the operation of indoor units		To apportion the electric energy, set as energy management block (tenant). (See [2] 3.)
	When interlocked with the operation of indoor units		No settings are required (cannot be set as a target for billing function). Note • The LOSSNAY electric energy will be apportioned based on the operating status of the interlocked indoor units.
OA Processing unit	When not interlocked with the operation of indoor units		Set as energy management block (tenant). (See [2] 3.)
	When interlocked with the operation of indoor units	When interlocked with the operation of same tenant's indoor units	Set as same energy management block (tenant) as the interlocked indoor units. (See [2] 6.)
		When interlocked with the operation of multiple tenants' indoor units	Set as independent energy management block (tenant) and invoice the electricity charges by including it to common area charges, etc.

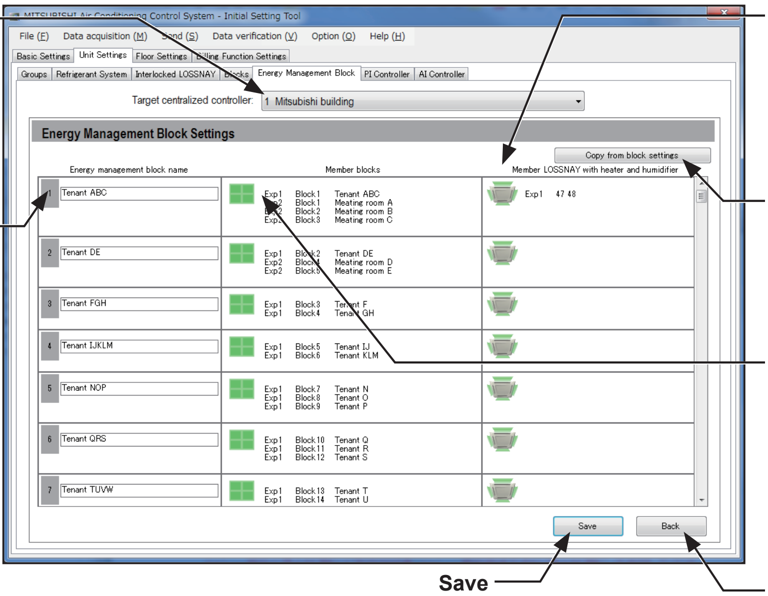
[2] Energy management block settings

Procedures

1. Click [Unit Settings] > [Energy Management Block] to access the energy management block settings screen.

Note

- If the centralized controller is Ver. 7.2, only the ones set as the [AE-200 (Billing)] can be set.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
Copy from block settings
Save
Back

Target centralized controller: 1 Mitsubishi building

Energy Management Block Settings

	Energy management block name	Member blocks	Member LOSSNAY with heater and humidifier
1	Tenant ABC	🟩 Exp1 Block1 Tenant ABC Exp2 Block1 Meating room A Exp2 Block2 Meating room B Exp2 Block3 Meating room C	Exp1 47 48
2	Tenant DE	🟩 Exp1 Block2 Tenant DE Exp2 Block4 Meating room D Exp2 Block5 Meating room E	
3	Tenant FGH	🟩 Exp1 Block3 Tenant F Exp1 Block4 Tenant GH	
4	Tenant IJKLM	🟩 Exp1 Block5 Tenant IJ Exp1 Block6 Tenant KLM	
5	Tenant NOP	🟩 Exp1 Block7 Tenant N Exp1 Block8 Tenant O Exp1 Block9 Tenant P	
6	Tenant QRS	🟩 Exp1 Block10 Tenant Q Exp1 Block11 Tenant R Exp1 Block12 Tenant S	
7	Tenant TUVW	🟩 Exp1 Block13 Tenant T Exp1 Block14 Tenant U	

Target centralized controller
Select one of the connected centralized controllers whose energy management block settings are to be made.

Energy management block No.

Member LOSSNAY with heater/humidifier registration
Click to display the screen for selecting OA Processing unit.

Copy from block settings
Click to create an energy management block with the settings copied from the block settings.

Member block registration
Click to display the screen for selecting member blocks.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. In “Energy management block name”, enter the energy management block number in 20 characters or less.

Note

- By setting the same name for the energy management blocks that are connected to different AE-200 units, the calculation results can be merged.
  Refer to section 4-1-2 “Charge Calculation Tool settings” ((4) “Display order of charge calculation result (Number/Name), Merger of energy management blocks with same name (Merge/Not merge)”) for details.
- Click [Copy from block settings] to create an energy management block with the settings copied from the block settings. Then, make the setting for the OA Processing unit in steps 6 through 8.

3. Click the icon in “Member block registration” (🟩) to display the member block selection screen.
4. Select one of the expansion controllers ([Exp1] through [Exp4]) of the member block to be registered.
5. Select the block number of the member block to be registered, and click [OK].

Note

- To show the block name, move the cursor to the block number.

6. Click the icon in “Member LOSSNAY with heater/humidifier registration” ( ) to display a screen to select the address of the OA Processing unit.

Note

- Register the OA Processing unit that is set as an interlocked LOSSNAY.

7. Select the expansion controller ([Exp1] to [Exp4]) of the OA Processing unit to be registered.
8. Select the unit address of the OA Processing unit to be registered, and click [OK].
9. Click [Save] to save the settings.

6-6-6. PI controller settings

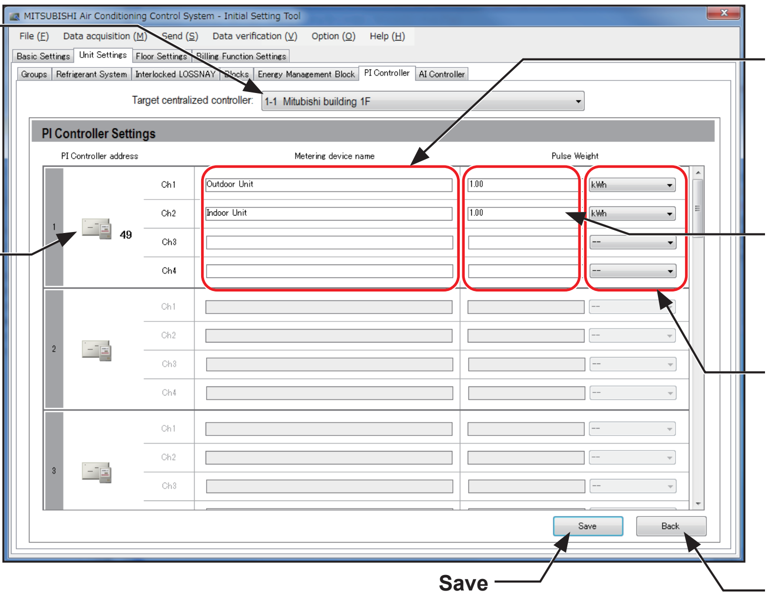
To use metering device on the centralized controller, follow the instructions below to register PI controllers (PAC-YG60MCA) and to make measurement settings.

Procedures

1. Click [Unit Settings] > [PI Controller] to access the PI controller settings screen.

Note

- The maximum settable number of PI controllers for each centralized controller is 15. The maximum number of connectable PI controllers in an AE-200 system is 20.
- A separate license is required to use the Peak Cut function using the measurement values.
- Only the addresses that have not been registered on the group, the Refrigerant System settings, interlocked LOSSNAY, or AI controller setting screens are available for selection.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
PI Controller Settings
Save
Back

Target centralized controller: 1-1 Mitubishi building 1F

PI Controller address		Metering device name	Pulse Weight	
1 49	Ch1	Outdoor Unit	1.00	kWh
	Ch2	Indoor Unit	1.00	kWh
	Ch3			--
	Ch4			--
2	Ch1			--
	Ch2			--
	Ch3			--
	Ch4			--
3	Ch1			--
	Ch2			--
	Ch3			--

Target centralized controller
Select one of the connected centralized controllers whose PI controller settings are to be made.

PI controller registration
Click to display the screen for registering PI controllers.

Metering device name

Pulse Weight

Measurement unit

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. Click the icon in “PI controller registration” ( ) to display the unit address selection screen.
3. Select the address number of the PI controller to be registered.
   When a built-in Pulse Input (PI) is used, select [PI].
4. In “Metering device name” (Ch1 to Ch4), enter the metering device name in 20 characters or less.
5. Enter the pulse weight and select the measurement unit.

Note

- The measurement unit can be selected from [kWh], [m3], [MJ], or [--(no unit)].
- When not using a metering device, leave the pulse weight blank and select [--(no unit)] for the measurement unit.

6. Click [Save] to save the settings.

Important

- Set the pulse weight according to the metering device to be used. To ensure proper settings, first check the value measured by the metering device and the value counted by the built-in Pulse Input (PI) or the PI controller. Then, after a certain time, check that both values have increased by equal values. (The values that the built-in Pulse Input (PI) or the PI controller counts can be checked on the LCD and the Integrated Centralized Control Web.) Refer to section 7 “Billing function trial run” for details.

6-6-7. AI controller settings

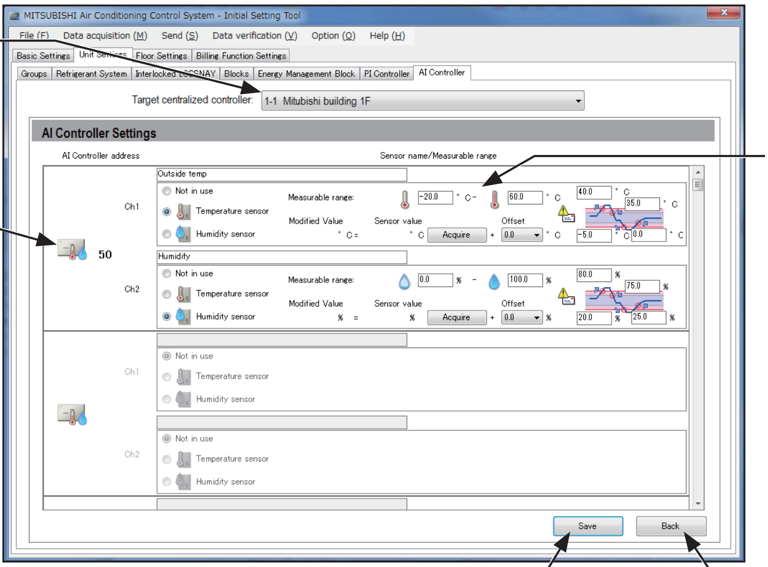
To use temperature and humidity sensors, follow the instructions below to register AI controllers (PAC-YG63MCA) and to make measurement settings.

Note

- Only the addresses that have not been registered on the group, the Refrigerant System settings, interlocked LOSSNAY, or PI controller setting screens are available for selection.

Procedures

1. Click [Unit Settings] > [AI Controller] to access the AI controller settings screen.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Groups
Refrigerant System
Interlocked LOSSNAY
Blocks
Energy Management Block
PI Controller
AI Controller
AI Controller Settings
AI Controller address
Sensor name/Measurable range
Not in use
Temperature sensor
Humidity sensor
Measurable range:
Modified Value
Sensor value
Offset
Acquire
Save
Back

Target centralized controller: 1-1 Mitubishi building 1F

50

Ch1: Outside temp, Temperature sensor, Measurable range: -20.0 °C – 60.0 °C, Offset 0.0 °C, 40.0 °C, 35.0 °C, -5.0 °C, 0.0 °C

Ch2: Humidify, Humidity sensor, Measurable range: 0.0 % – 100.0 %, Offset 0.0 %, 80.0 %, 75.0 %, 20.0 %, 25.0 %

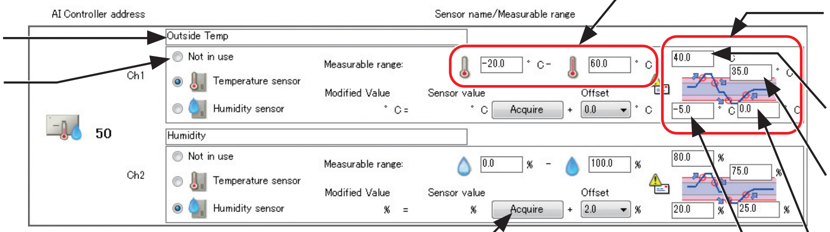
Target centralized controller
Select one of the connected centralized controllers whose AI controller settings are to be made.

AI controller registration
Click to display the screen for registering AI controllers.

Measurement setting

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.


AI Controller address
Sensor name/Measurable range
Not in use
Temperature sensor
Humidity sensor
Measurable range:
Modified Value
Sensor value
Offset
Acquire

50

Ch1: Outside Temp, Temperature sensor, Measurable range: -20.0 °C – 60.0 °C, Offset 0.0 °C, 40.0, 35.0, -5.0, 0.0

Ch2: Humidify, Humidity sensor, Measurable range: 0.0 % – 100.0 %, Offset 2.0 %, 80.0 %, 75.0 %, 20.0 %, 25.0 %

Sensor name

Selection of temperature or humidity sensor icon

Measurable range

Upper/lower ON- and OFF-threshold settings for e-mail alarm function

Upper limit (ON-threshold)

Upper limit (OFF-threshold)

Lower limit (OFF-threshold)

Lower limit (ON-threshold)

Acquire

2. Click the icon in “AI controller registration” ( ) to display the unit address selection screen.
3. Select the address number of the AI controller to be registered, and click [OK].
4. Enter the name of the sensor in 20 characters or less.
5. Select a temperature sensor icon ( ) or humidity sensor icon ( ) for Ch1 and Ch2 respectively. “Not in use” can also be selected.
6. Enter the measurable range of the sensor.
   When the Pt100 sensor is connected, the range must be between -30ºC (-22ºF) and +60ºC (+140ºF). (Only Ch1 can be used for the Pt100 sensor.)
   When the sensors other than the Pt100 sensors are connected, enter the ranges that are described in the operation manuals of the sensor.

7. To receive an e-mail alarm when the temperature or the humidity exceeds certain predetermined values, set the ON- and OFF-thresholds for both the upper and lower limit temperatures.
   To avoid frequent ON/OFF cycling, the minimum differential between the ON- and OFF-threshold values should be 1ºC (2ºF).
8. Click [Save] after completing the settings.

[1] Offsetting the measured temperature/humidity values

To set the offset value for the measured values, click [Acquire] to acquire the current value, and set the offset value according to your usage environment.

Note

- If AI controller connection settings for a given centralized controller have not been saved, the “measurement value” will not be displayed even when [Acquire] is clicked.
- When registering an AI controller for the first time, the “measurement value” cannot be acquired. To input the “offset value” after acquireing and checking the “measurement value”, once the setting information must be sent to the centralized controller. After registering the AI controller and temperature/humidity sensors, send the settings data to the centralized controller. (See section 6-4-3 [5] “Send”.)
- The default offset value for temperature sensor is “0.0”. The settable offset value range is between -10.0ºC (-18.0ºF) and +10.0ºC (+18.0ºF).
- The default offset value for humidity sensor is “0.0”. The settable offset value range is between -10.0% and +10.0%.

6-7. Billing function settings

This section explains how to make billing function settings on the Initial Setting Tool.

Note

- The settings screen for the AE-200 system to which [AE-200 (Billing)] is set as “Controller type” in section 6-5-1 “System Configuration settings” will be displayed.

6-7-1. Billing function settings

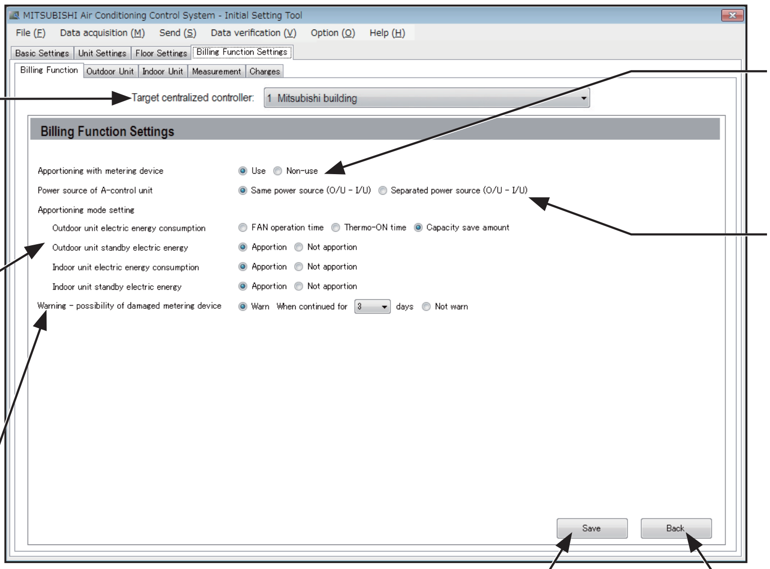
Make the settings for charge calculation.

Note

- On the LCD, set “AE-200 Apportion” to [Use].
- If there are multiple AE-200 units using the apportioned electricity billing function, the settings are required for each AE-200.

Procedures

1. Click [Billing Function Settings] > [Billing Function] to access the Billing Function Settings screen.



Target centralized controller: 1 Mitsubishi building

Billing Function Settings

Apportioning with metering device ● Use ○ Non-use

Power source of A-control unit ● Same power source (O/U - I/U) ○ Separated power source (O/U - I/U)

Apportioning mode setting

Outdoor unit electric energy consumption ○ FAN operation time ○ Thermo-ON time ● Capacity save amount

Outdoor unit standby electric energy ● Apportion ○ Not apportion

Indoor unit electric energy consumption ● Apportion ○ Not apportion

Indoor unit standby electric energy ● Apportion ○ Not apportion

Warning - possibility of damaged metering device ● Warn When continued for 3 days ○ Not warn

Target centralized controller
Select one of the connected centralized controllers whose billing settings are to be made.

Apportioning mode setting
Set the apportioning modes for the operating electric energy and standby electric energy of outdoor units and indoor units.

Warning - possibility of damaged metering device
Set to enable or disable the warning display function of damaged metering device.

Apportioning with metering device
Set a metering device connection.

Power source of A-control unit
Select a power source setting for the A-control unit outdoor units and indoor units.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. In “Apportioning with metering device”, select [Use] or [Non-use].
   To apportion electric energy using an electricity meter, select [Use].
   “Apportioning mode setting” can be made only when [Use] is selected.
   To calculate the charge rate by manually entering the electric energy rather than using an electricity meter, select [Non-use].

Important

- Ensure that this setting matches the [Connected]/[Not connected] setting for “Metering device connection” on the [Advanced Settings] screen on the Charge Calculation Tool.
  If the settings are not the same, the following error message will be displayed:
  “Metering device connection settings (connection or non-connection) on the Charge Calculation Tool and the AE-200 do not match. Check the [Metering device connection] setting on the Advanced Settings screen, and check for proper AE-200 billing function settings.”

3. In “Power source of A-control unit”, select [Same power source (O/U - I/U)] or [Separated power source (O/U - I/U)].
   The [Same power source (O/U - I/U)] setting denotes a configuration in which the A-control unit outdoor units and indoor units are receiving power from the same electricity meter power source. The [Separated power source (O/U - I/U)] setting denotes a configuration in which the A-control unit outdoor units and indoor units are receiving power from different electricity meter power sources.

Note

- This setting is only available when [Use] is selected in “Apportioning with metering device”.
- The [Same power source (O/U - I/U)] and [Separated power source (O/U - I/U)] settings cannot both be used in the same AE-200 system.

4. Select an apportioning mode for the outdoor unit operating electric energy from [FAN operation time], [Thermo-ON time] or [Capacity save amount].

Note

- In apportionment by fan operation time, the indoor unit fan operation time (thermo-ON + thermo-OFF) is multiplied by the indoor unit capacity coefficient.
- In apportionment by thermo-ON time, the indoor unit thermo-ON time is multiplied by the indoor unit capacity coefficient.
- In apportionment by capacity save amount, the indoor unit operating capacity (amount of refrigerant used) is multiplied by the indoor unit capacity coefficient. Electric energy consumption of HVRF system with indoor units that do not have a flow-control valve is apportioned by thermo-ON time.
- Electric energy consumption of HVRF system with indoor units that have a flow-control valve can be apportioned by capacity save amount.
- Select [FAN operation time] or [Thermo-ON time] when the system includes indoor units with a flow-control valve and those without.
- When the setting for the “Apportioning with metering device “is set to [Non-use] in a configuration where VRF and HVRF systems are combined, make sure to apportion the electric energy consumption of the outdoor units by [Thermo-ON time], [FAN operation time], or [Capacity save amount][*1] to ensure appropriate apportioning of electricity consumption between VRF and HVRF systems.

[*1] Only when all indoor units in the HVRF systems have a flow-control valve, [Capacity save amount] can be selected.

5. Select either [Apportion] or [Not apportion] for the outdoor unit or pump unit standby electric energy.
Select [Apportion] to apportion the outdoor unit standby electric energy separately from the operating electric energy, and select [Not apportion] to include the standby electric energy in the operating electric energy.

6. Select either [Apportion] or [Not apportion] for the indoor unit operating electric energy.
Select [Apportion] to apportion the indoor unit operating electric energy, and select [Not apportion] to include the indoor unit operating electric energy in the outdoor unit operating electric energy.
If electricity meter is not connected to the indoor unit, select [Not apportion].

7. Select either [Apportion] or [Not apportion] for the indoor unit standby electric energy.
Select [Apportion] to apportion the indoor unit standby electric energy separately from the operating electric energy, and select [Not apportion] to include the standby electric energy in the operating electric energy.

8. Select either [Warn] or [Not warn] for the possibility of damaged metering device.
Select [Warn] to activate an alarm of “Warning - possibility of damaged metering device (0095)”, or select [Not warn] not to activate the alarm.
When [Warn] is selected, specify the number of days between [3] and [7] when an alarm will be issued after the specified number of days has passed in which no count was taken.
This setting is not available for the electricity meter for the pump unit. The setting for the electricity meter for the pump unit will be fixed to 10 days.

Note

- For details about “Warning - possibility of damaged metering device (0095)”, refer to section 9-1 “Troubleshooting”.

9. After the settings are completed, click [Save].

The standby electric energy invoicees differ depending on the settings.

	Standby electric energy		Invoicees	
	Outdoor unit/pump unit	Indoor unit*1	Outdoor unit/pump unit	Indoor unit
Include in the charges*3	Apportion	Apportion	Tenant	Tenant
		Not apportion	Tenant	Tenant*2
	Not apportion	Apportion	Tenant*2	Tenant
		Not apportion	Tenant*2	Tenant*2
Not include in the charges*3	Apportion	Apportion	Building owner	Building owner
		Not apportion	Building owner	Tenant*2
	Not apportion	Apportion	Tenant*2	Building owner
		Not apportion	Tenant*2	Tenant*2

*1 Apportionment for indoor unit standby electric energy can be selected when [Apportion] is selected for the indoor unit operating electric energy.

*2 Because standby electric energy is not apportioned, it will be calculated as part of the operating electric energy.

*3 Set on the Charge Calculation Tool.

Note

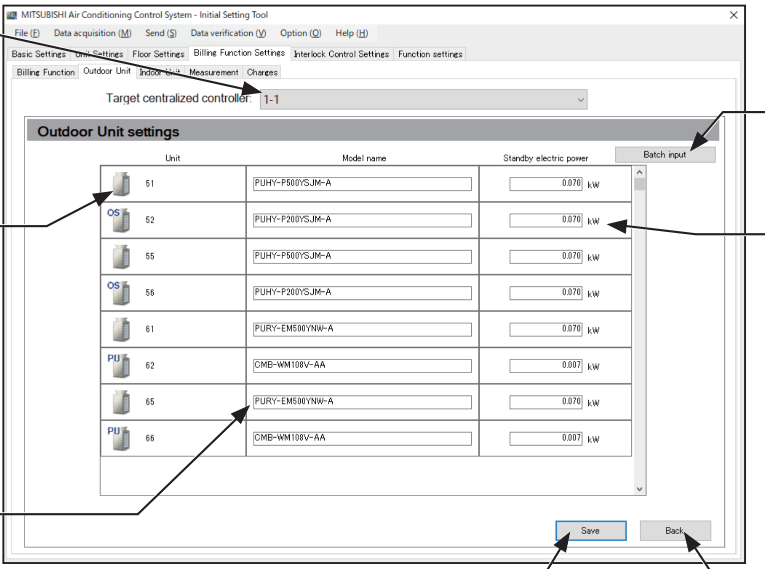
- To place the obligation for standby electric energy on the building owner rather than invoicing to the tenants, set [Apportion] for the standby electric energy and then select [Not include in the charges] in “Charge calculation for standby electric energy” on the Charge Calculation Tool.
- When [Not apportion] is selected for standby electric energy, in periods between summer and winter when few units are running and running times are short, the standby electric energy may be apportioned as electric energy consumption on the air conditioners that are running. For this reason, the [Apportion] setting for standby electric energy is recommended.
- In systems where the electric energy is entered manually (without metering devices), standby electric energy cannot be apportioned in the charge rate.

6-7-2. Outdoor unit settings

Set the standby electric power for connected outdoor units and pump units.

Procedures

1. Click [Billing Function Settings] > [Outdoor Unit] to access the outdoor unit settings screen.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Interlock Control Settings
Function settings
Billing Function
Outdoor Unit
Indoor Unit
Measurement
Charges
Outdoor Unit settings
Batch input
Save
Back

Target centralized controller: 1-1

Unit	Model name	Standby electric power
51	PUHY-P500YSJM-A	0.070 kW
OS 52	PUHY-P200YSJM-A	0.070 kW
55	PUHY-P500YSJM-A	0.070 kW
OS 56	PUHY-P200YSJM-A	0.070 kW
61	PURY-EM500YNW-A	0.070 kW
PU 62	CMB-WM108V-AA	0.007 kW
65	PURY-EM500YNW-A	0.070 kW
PU 66	CMB-WM108V-AA	0.007 kW

Target centralized controller
Select one of the connected centralized controllers whose outdoor unit settings are to be made.

Outdoor unit/sub outdoor unit/pump unit
Displays the outdoor units, sub outdoor units, and pump units set in the refrigerant system settings.

Model name
Set the outdoor unit model name.

Batch input
Click to collectively set the outdoor unit model names.

Standby electric power
Sets the standby electric power for the outdoor unit.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. Check that the addresses of the outdoor units connected to the controller selected in “Target centralized controller” are displayed in the “Outdoor unit/Sub outdoor unit” column.

Note

- The outdoor units, sub outdoor units, and pump units[*1] set in section 6-6-2 “Refrigerant System settings” will be displayed.

  [*1] Pump units will be displayed only for HVRF systems.
- Indoor unit address will be displayed for air-conditioner (A-control) units.
- ( ) indicates an outdoor unit, (OS) indicates a sub outdoor unit, and (PU) indicates a pump unit.

3. Enter the outdoor unit model name in “Model name”.

4. Enter “Standby electric power” in [kW].

Note

- Set the standby electric power for an outdoor unit, sub outdoor unit, and pump unit between 0 and 1.000 [kW].
- The default setting of 0.070 [kW] is recommended for outdoor units and sub outdoor units.
- The default setting of 0.007 [kW] is recommended for pump units.
- Where an outdoor unit (single address) is a model equipped with 2 compressors, set the standby electric power to twice the default setting (0.140 [kW]).

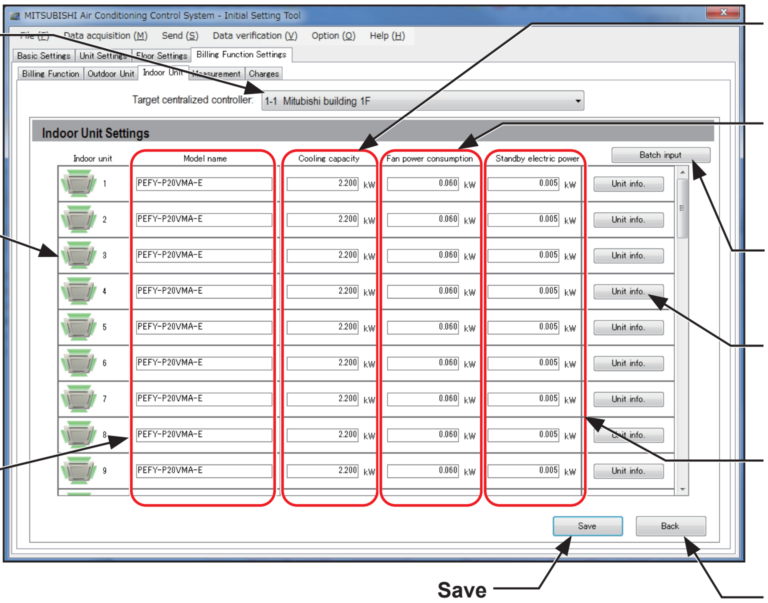
5. After the settings are completed, click [Save].

6-7-3. Indoor unit settings

Set the cooling capacity, fan power consumption and standby electric power for connected indoor units. When [Not apportion] is selected in “Indoor unit electric energy apportioning mode” in section 6-7-1 “Billing function settings”, this setting is required.

Procedures

1. Click [Billing Function Settings] > [Indoor Unit] to access the indoor unit settings screen.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Billing Function
Outdoor Unit
Indoor Unit
Measurement
Charges
Indoor Unit Settings
Batch input
Save
Back

Target centralized controller: 1-1 Mitubishi building 1F

Indoor unit	Model name	Cooling capacity	Fan power consumption	Standby electric power	
1	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
2	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
3	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
4	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
5	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
6	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
7	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
8	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.
9	PEFY-P20VMA-E	2.200 kW	0.060 kW	0.005 kW	Unit info.

Target centralized controller
Select one of the connected centralized controllers whose indoor unit settings are to be made.

Indoor unit
Displays the indoor units registered in the refrigerant system settings.

Model name
Set the indoor unit model name.

Cooling capacity
Enter the cooling capacity for the indoor unit.

Fan power consumption
Enter the fan power consumption for the indoor unit.

Batch input
Click to collectively select indoor unit models.

Unit info.
Click to display the unit selection screen.

Standby electric power
Enter the standby electric power for the indoor unit.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. Check that the addresses of the indoor units connected to the controller selected in “Target centralized controller” are displayed in the “Indoor unit” column.

Note

- The addresses of the indoor units (air conditioners, A-control units, Air To Water (PWFY) units, and OA Processing units) set as indoor units in section 6-6-2 “Refrigerant System settings”, and the addresses of the LOSSNAY units set in section 6-6-1 “Group settings” will be displayed.
- Make the settings for all the connected indoor units (including OA Processing units).

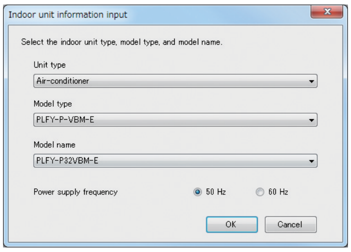
3. Enter the indoor unit model name in “Model name”.
4. Make the cooling capacity, fan power consumption and standby electric power settings.
The settings can be entered either manually or by referencing the Initial Setting Tool database.
5. After the settings are completed, click [Save].

(1) Referencing the Initial Setting Tool database

Selecting the connected indoor units from the database allows the model name, cooling capacity, fan power consumption and standby electric power to be set automatically.
Models that cannot be selected by type or name should be registered manually using the procedure in (2) "Manual input" below.

Procedures

1. Click "Unit info.".
   The indoor unit settings screen will be displayed.
2. In "Unit type", select [Air-conditioner], [Air-conditioner (A-control)], [Air To Water], [LOSSNAY] or [LOSSNAY with heater/humidifier].
3. In "Model type", select the indoor unit type selected in "Unit type".
4. In "Model name", select the model name for the indoor unit.
5. In "Power supply frequency", select the frequency of the power supply.
6. Click [OK].



Select the indoor unit type, model type, and model name.

Unit type: Air-conditioner

Model type: PLFY-P-VBM-E

Model name: PLFY-P32VBM-E

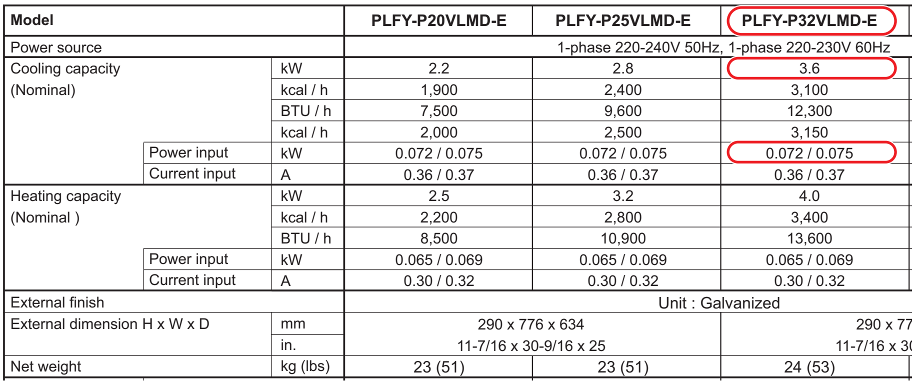
Power supply frequency ● 50 Hz ○ 60 Hz

(2) Manual input

Check the indoor unit catalog (specifications) and then enter the "Cooling capacity" and "Fan power consumption".

Procedures

1. In "Cooling capacity", enter the cooling capacity (kW) of the indoor unit.
2. In "Fan power consumption", enter the fan power consumption (kW) of the indoor unit.
3. In "Standby electric power", enter the standby electric power (kW) of the indoor unit.



Model			**PLFY-P20VLMD-E**	**PLFY-P25VLMD-E**	**PLFY-P32VLMD-E**
Power source			1-phase 220-240V 50Hz, 1-phase 220-230V 60Hz		
Cooling capacity (Nominal)		kW	2.2	2.8	3.6
		kcal / h	1,900	2,400	3,100
		BTU / h	7,500	9,600	12,300
		kcal / h	2,000	2,500	3,150
	Power input	kW	0.072 / 0.075	0.072 / 0.075	0.072 / 0.075
	Current input	A	0.36 / 0.37	0.36 / 0.37	0.36 / 0.37
Heating capacity (Nominal)		kW	2.5	3.2	4.0
		kcal / h	2,200	2,800	3,400
		BTU / h	8,500	10,900	13,600
	Power input	kW	0.065 / 0.069	0.065 / 0.069	0.065 / 0.069
	Current input	A	0.30 / 0.32	0.30 / 0.32	0.30 / 0.32
External finish			Unit : Galvanized		
External dimension H x W x D		mm	290 x 776 x 634		290 x 77
		in.	11-7/16 x 30-9/16 x 25		11-7/16 x 3
Net weight		kg (lbs)	23 (51)	23 (51)	24 (53)

<Example>
For the "PLFY-P32VLMD-E" in the table at left, the settings are as follows:
Cooling capacity: 3.6 kW
Fan power consumption: 0.072 kW (in 50 Hz regions)
0.075 kW (in 60 Hz regions)

Note

- The cooling capacity cannot be entered for a LOSSNAY.
- Set the cooling capacity for an indoor unit between 0 and 999.999 [kW].
- Set the fan power consumption for an indoor unit between 0 and 999.999 [kW].
- Set the standby electric power for an indoor unit between 0 and 1.000 [kW].
- For "Standby electric power", the default setting of 0.005 [kW] is recommended.
- To exclude absent tenants from charge calculation, set the cooling capacity, fan power consumption and standby electric power all to "0" (zero).
  Note however that you must restore the original settings when a tenant is again in residence.

6-7-4. Measurement settings

Set the indoor units, outdoor units, pump units, and electricity meters required when the billing function is used. When [Non-use] is selected in “Apportioning with metering device” in section 6-7-1 “Billing function settings”, this setting is not required.

Procedures

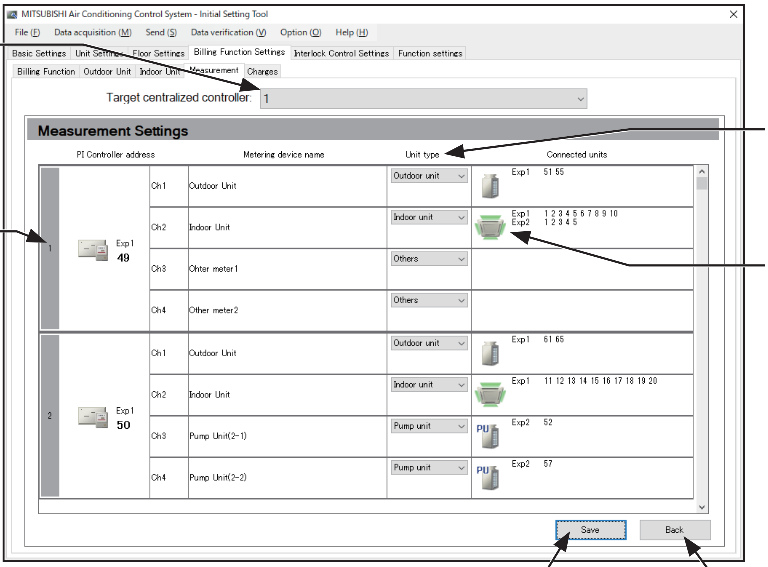
1. Click [Billing Function Settings] > [Measurement] to access the measurement settings screen.

Note

- The “Expansion controller No.”, “Address” and “Metering device name” set in section 6-6-6 “PI controller settings” will be displayed.
- Metering device name cannot be changed on this screen.

Target centralized controller
Select one of the connected centralized controllers whose measurement settings are to be made.

PI controller address
Displays the address of the connected PI controller.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Interlock Control Settings
Function settings
Billing Function
Outdoor Unit
Indoor Unit
Measurement
Charges
Save
Back

Target centralized controller: 1

Measurement Settings

PI Controller address		Metering device name	Unit type	Connected units
1 Exp1 49	Ch1	Outdoor Unit	Outdoor unit	Exp1 51 55
	Ch2	Indoor Unit	Indoor unit	Exp1 1 2 3 4 5 6 7 8 9 10 Exp2 1 2 3 4 5
	Ch3	Ohter meter1	Others	
	Ch4	Other meter2	Others	
2 Exp1 50	Ch1	Outdoor Unit	Outdoor unit	Exp1 61 65
	Ch2	Indoor Unit	Indoor unit	Exp1 11 12 13 14 15 16 17 18 19 20
	Ch3	Pump Unit(2-1)	Pump unit	Exp2 52
	Ch4	Pump Unit(2-2)	Pump unit	Exp2 57

Unit type
Select the unit types connected to each of the PI controller channels.

Connected units
Click to display the unit address selection screen.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. Check that the controller numbers ([Exp1] to [Exp4]) selected in “Target centralized controller” are displayed in “PI controller address”, that the addresses of the PI controllers connected to those expansion controllers are displayed, and that the names of Ch1 to Ch4 on the PI controllers are displayed in “Metering device name”.

Note

- For measurement pulse input of centralized controller (AE-50/EW-50), “PI” will be shown as the address.

3. In “Unit type”, select [Indoor unit], [Outdoor unit], [Pump unit], or [Others] as the type for the unit for which electricity is being metered by the Ch1-4 metering devices.

① When [Indoor unit] is selected, ( ) will appear in “Connected units”.
② When [Outdoor unit] is selected, ( ) will appear in “Connected units”.
③ (HVRF system only) When [Pump unit] is selected, (PU) will appear in “Connected units”.
④ When [Others] is selected, nothing will appear in “Connected units”.

4. Click ( ) or ( ) in “Connected units” to display the unit address selection screen.
5. Select the centralized controller ([Exp1] to [Exp4]) of the indoor unit or outdoor unit.
6. Select the indoor unit or outdoor unit address number to be registered.
   The selected unit addresses will appear with a yellow-green background.
   Click again to deselect. The deselected unit addresses will appear with a light-gray background.

7. After the settings are completed, click [Save].

Note

Sub outdoor units do not need to be registered. They are included in the outdoor units of the same power system.

If the pulse weight set in section 6-6-6 “PI controller settings” is not [kWh] ([m3], [MJ] or [--]), only [Others] can be selected.

- If the electricity meter is used for purposes other than air conditioning, or if there are metering devices other than electricity meters connected, select [Others].
- If [Same power source (O/U - I/U)] is selected in “Power source of A-control unit” in section 6-7-1 “Billing function settings”, select [Outdoor unit] as the unit type.
- For an indoor unit, the unit address set for an air conditioner, air conditioner (A-control), Air To Water (PWFY) unit, HWHP (CAHV, CRHV) unit, LOSSNAY, or OA Processing unit in section 6-6-1 “Group settings”, or the OA Processing unit set in section 6-6-2 “Refrigerant System settings” can be selected.
- For an outdoor unit, the unit address set for an outdoor unit in section 6-6-2 “Refrigerant System settings” can be selected.
- The unit addresses set in section 6-6-6 “PI controller settings” or 6-6-7 “AI controller settings” cannot be selected.
- A single electricity meter must not be used to measure the electric energy consumptions of both VRF and HVRF systems. (There is no need to install separate electricity meters for the indoor units in the HVRF and the VRF systems.)
- Only one electricity meter can be connected to each pump unit.
- Install an electricity meter that measures the electric energy consumptions of the outdoor units for each water-piping system in the HVRF system.
- If no electricity meters are installed, the power consumption of the pump unit cannot be properly measured. Separate electricity meters are required for the pump unit and the indoor units.
- Separate electricity meters are required for the outdoor unit and the pump unit.

6-7-5. Charges settings

[1] Overview of the charge settings

Time period for each unit price can be set for particular seasons, days of the week or special days.

* Unit price settings can be made on the Charge Calculation Tool.

Note

- Set the amount of the unit price on the Charge Calculation Tool. Refer to section 4-1-2 "Charge Calculation Tool settings" for the details.
- To delete a charging time period setting after operation begins, the "carried-over data" for the deleted time period must be cleared. (Refer to section 9-6 (2) "Clearing carried-over data".)
  If the carried-over data is not cleared, "0095 Warning - possibility of damaged metering device" will be displayed.

(1) Time period setting for the seasonal charges

You can set whether different unit prices are used for each season.
If you use this feature, the time period for the seasonal charges can be set. (Format: MM/DD)

(2) Weekly charges setting

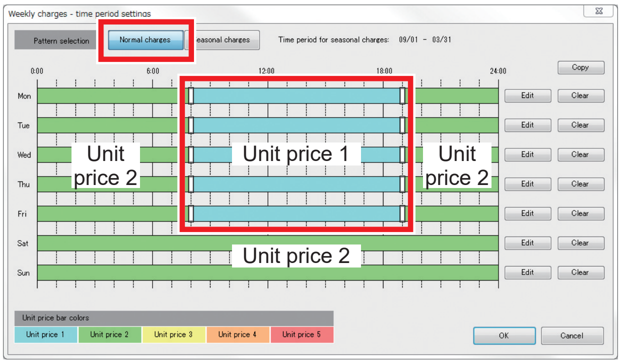
In "Pattern selection", the normal charges or the seasonal charges set in (1) can be selected and then the unit price for each time period or day of the week can be set.

Example: Setting a high electricity charge for the high-demand period in summer (Jul. 1 to Sep. 30)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Normal charges						Seasonal charges			Normal charges		

Unit price 1	Unit price 2	Unit price 3	Unit price 4	Unit price 5
$0.20/kWh	$0.22/kWh	$0.24/kWh	$0.23/kWh	$0.18/kWh

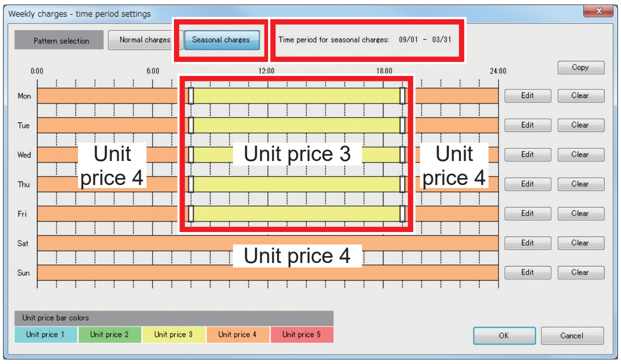
<Normal charges>
Jan. 1 to Jun. 30, Oct.1 to Dec. 31


Weekly charges - time period settings

Time period for seasonal charges: 09/01 - 03/31

Pattern selection
Normal charges
easonal charges
0:00
6:00
12:00
18:00
24:00
Copy
Mon
Tue
Wed
Thu
Fri
Sat
Sun
Edit
Clear
Unit price 2
Unit price 1
Unit price 2
Unit price 2
Unit price bar colors
Unit price 1
Unit price 2
Unit price 3
Unit price 4
Unit price 5
OK
Cancel

<Seasonal charges>
Jul. 1 to Sep. 30


Weekly charges - time period settings

Time period for seasonal charges: 09/01 - 03/31

Pattern selection
Normal charges
Seasonal charges
0:00
6:00
12:00
18:00
24:00
Copy
Mon
Tue
Wed
Thu
Fri
Sat
Sun
Edit
Clear
Unit price 4
Unit price 3
Unit price 4
Unit price 4
Unit price bar colors
Unit price 1
Unit price 2
Unit price 3
Unit price 4
Unit price 5
OK
Cancel

For the seasonal charges above:

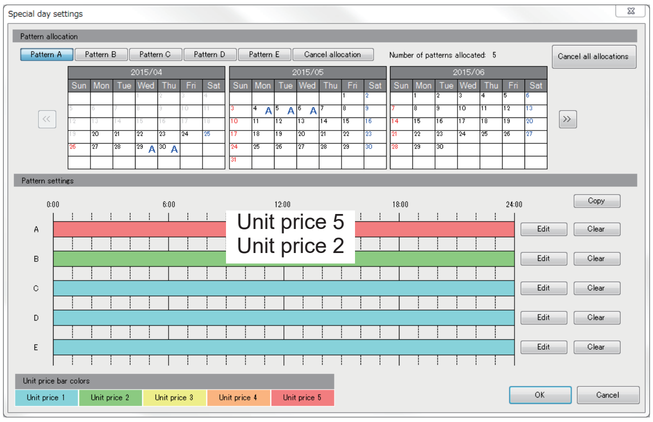
		Mon	Tue	Wed	Thu	Fri	Sat	Sun
Time period	8:00 to 17:00	Unit price 3					Unit price 4	
	17:00 to 8:30	Unit price 4						

Example: Set one unit price for weekdays from 8:30 to 17:00 and a separate unit price for other time periods.
Within the set period on weekdays: Unit price 3 ($0.24/kWh); Other time periods on weekdays: Unit price 4 ($0.23/kWh).
Set separate unit prices for weekdays and weekends.
Weekends: Unit price 4 ($0.23/kWh)

(3) Special day charges settings

You can specify special days and set a unit price for those days.

Example: Set a unit price for public holidays and special days that does not overlap the weekly unit price set in (2).
A: Company event; B: Holiday


Special day settings
Pattern allocation
Pattern A
Pattern B
Pattern C
Pattern D
Pattern E
Cancel allocation
Cancel all allocations
<<
>>
Pattern settings
0:00
6:00
12:00
18:00
24:00
Copy
A
B
C
D
E
Edit
Clear
Unit price 5
Unit price 2
Unit price bar colors
Unit price 1
Unit price 2
Unit price 3
Unit price 4
Unit price 5
OK
Cancel

Number of patterns allocated: 5

2015/04

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29 A	30 A		

2015/05

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4 A	5 A	6 A	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

2015/06

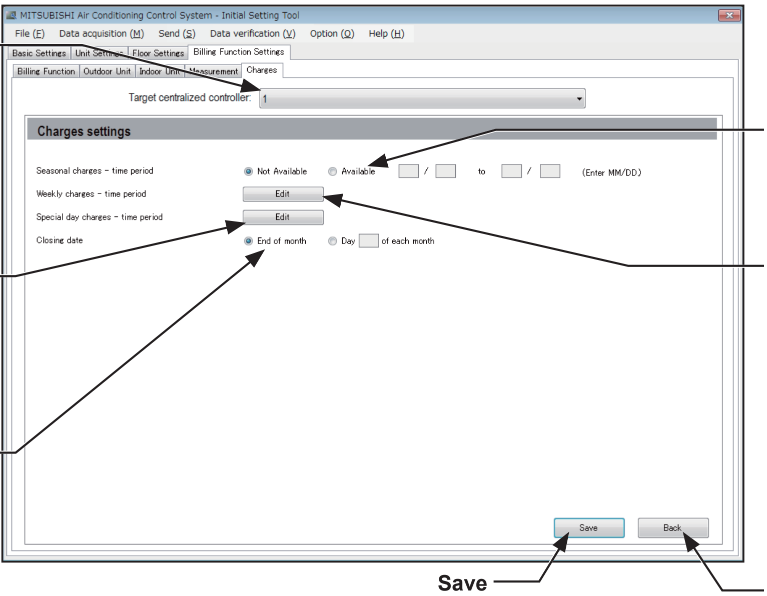
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

The patterns the charge time periods are set (A to E) can be assigned to the respective special days.

[2] Setting the charges required when using the billing function

Procedures

1. Click [Billing Function Settings] > [Charges] to open the charges settings screen.


MITSUBISHI Air Conditioning Control System - Initial Setting Tool
File (F)
Data acquisition (M)
Send (S)
Data verification (V)
Option (O)
Help (H)
Basic Settings
Unit Settings
Floor Settings
Billing Function Settings
Billing Function
Outdoor Unit
Indoor Unit
Measurement
Charges
Charges settings
Edit
Edit
Save
Back

Target centralized controller: 1

Seasonal charges - time period ● Not Available ○ Available ☐ / ☐ to ☐ / ☐ (Enter MM/DD)
Weekly charges - time period [Edit]
Special day charges - time period [Edit]
Closing date ● End of month ○ Day ☐ of each month

Target centralized controller
Select one of the connected centralized controllers whose charges settings are to be made.

Special day charges - time period
Click to display the special day charges settings screen.

Closing date
Set the periods displayed in the energy management list on the AE-200 LCD.

Seasonal charges - time period
Enter the period for which seasonal charges apply.

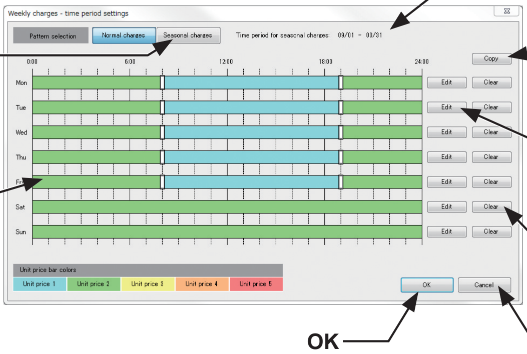
Weekly charges - time period
Click to display the weekly charges - time period settings screen.

Save
Click to save the settings.

Back
Click to display the previous settings without making any changes.

2. In “Seasonal charges - time period”, select [Available] or [Not available].
   To change the unit price according to the season, select [Available] and then enter the seasonal charges period.
   You can set a target period that spans calendar years. (Example: Dec. 1 to Jan. 31)
   You can set Feb. 29 regardless of whether the year is a leap year. In non-leap years, it becomes Mar. 1 if specified as a starting date and Feb. 28 if specified as an ending date.

3. In “Weekly charges - time period”, set the weekly unit price and the charges period.
   The unit price settings for each time period will be displayed in different colors and each day of the week will be shown. When “Seasonal charges - time period” was set to [Available], two types of charges period, “Normal charges” and “Seasonal charges” can be used.
   Up to 5 unit prices can be registered. Set unit prices on the Charge Calculation Tool.
   Up to 10 charges periods per day can be registered.
   At initial startup, “Unit price 1” is set for all time periods on every day of the week.
   When you click [Clear], unit price 1 will be set from 00:00 to 24:00.


Weekly charges - time period settings
Pattern selection
Normal charges
Seasonal charges
0:00
6:00
12:00
18:00
24:00
Copy
Mon
Tue
Wed
Thu
Fri
Sat
Sun
Edit
Clear
Unit price bar colors
Unit price 1
Unit price 2
Unit price 3
Unit price 4
Unit price 5
OK
Cancel

Time period for seasonal charges: 09/01 - 03/31

Seasonal charges
Click to display the weekly charges - time period settings screen for the seasonal period.

Set charges periods
Displays the set charges periods for each day of the week.

Seasonal charges - time period
Displays the seasonal charges period set in the Charges Settings screen.

Copy
Click to display the copying a day setting screen.

Edit
Click to display the time period setting screen.

Clear
Click to clear the set charges period.

Cancel
Click to go back to the previous screen without saving any changes.

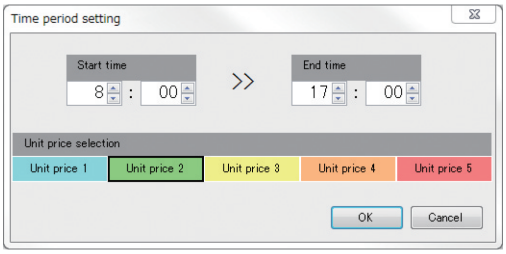
OK
Click to save the settings and go back to the charges settings screen.

[3] Setting the unit price and charges period for each day

(1) To register new settings

Procedures

1. Click [Edit] in “Weekly charges - time period settings” to display the “time period setting” screen.
2. Enter the start and end times, select the unit price and then click [OK].


Time period setting
>>
Unit price selection
Unit price 1
Unit price 2
Unit price 3
Unit price 4
Unit price 5
OK
Cancel

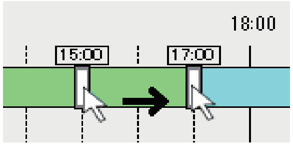
Start time 8 : 00
End time 17 : 00

Note

- If you register a new time that duplicates a time period for which a charges period has already been set, the new time period overwrites the previous time period.
- You cannot set multiple unit prices and times in one process. To set multiple prices or times, set the unit prices and time periods one at a time.
- Times can be set in 1-minute increments.

Note

- In the “Weekly charges - time period settings” and “Special day charges - time period” screens, the time period can be changed in 10-minute increments by clicking and dragging the separator lines.


18:00
15:00
17:00

(2) To change charges periods

Procedures

1. In the “Weekly charges - time period settings” screen, click the time period to be changed.
   The “Time period setting” screen will be displayed with the clicked time period and unit price highlighted.
2. Enter or select the changes and click [OK].

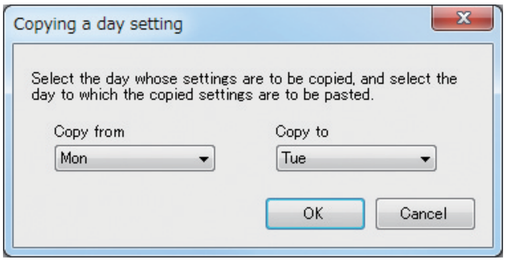
(3) To copy from another day

Procedures

1. In the “Weekly charges - time period settings” screen, click [Copy].
2. Select the “Copy from” and “Copy to,” and then click [OK].
   The Copy from source settings will be copied to the Copy to destination.

Note

- Settings that result an overlap between the “Normal charges - time period” and the “Seasonal charges - time period” cannot be copied.



Copying a day setting

Select the day whose settings are to be copied, and select the day to which the copied settings are to be pasted.

Copy from: Mon

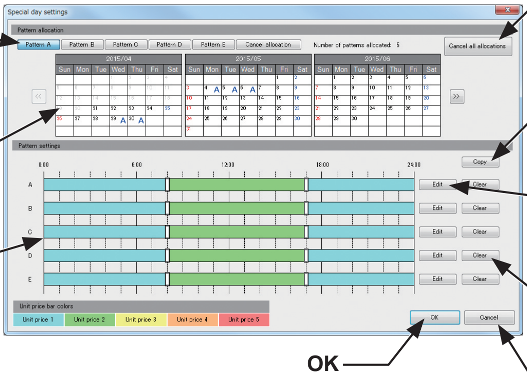
Copy to: Tue

[4] Setting the unit price and the charges period for special days in the “Special day charges - time period” screen

You can register up to 5 types of unit price setting (patterns A to E) for each time period and allocate patterns to special days.

Note

- The settings in “Special day charges - time period” take precedence over those in “Weekly charges - time period settings”.
- You can configure settings from the current day to the end of the month up to 24 months in the future.
- You can register up to 10 charges periods for each pattern.
- You can allocate patterns for up to 50 days for the total of all the patterns, not including patterns set for days prior to the current day.
- At initial startup, “Unit price 1” is set for all the patterns in every time period.



Pattern selection
Select the pattern to be set for the special day.

Calender
Select a pattern and click a date to allocate the selected pattern.

Time period display
Displays the set charges periods for each pattern.

Cancel all allocations
Click to cancel all pattern allocations of special day settings.

Copy
Click to display the pattern copying screen for special days.

Edit
Click to display the time period setting screen.

Clear
Click to clear the set charges period.

OK
Click to save the settings and go back to the charges settings screen.

Cancel
Click to go back to the previous screen without saving any changes.

Set the unit prices and charges periods for patterns A to E.

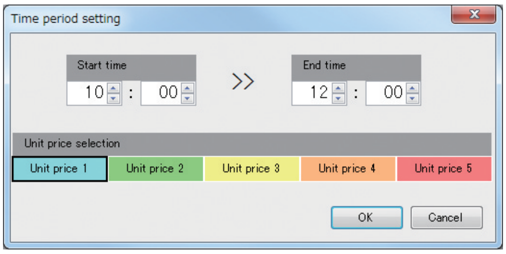
(1) To register new settings

Procedures

1. Click [Edit] in “Special day charges - time period” to display the “Time period setting” screen.
2. Enter the start and end times, select the unit price and then click [OK].

Note

- If you register a new time that duplicates a time period for which a charges period has already been set, the new time period overwrites the previous time period.
- You cannot set multiple unit prices and times at the same time. To set multiple prices or times, set the unit prices and time periods one at a time.


Time period setting
Unit price selection
Unit price 1
Unit price 2
Unit price 3
Unit price 4
Unit price 5
OK
Cancel

Start time 10 : 00 >> End time 12 : 00

(2) To change charges periods

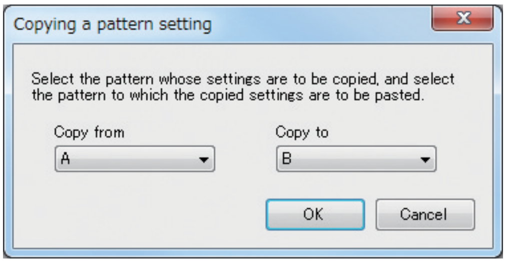
Procedures

1. In the “Special day charges - time period” screen, click the time period to be changed. The “Time period setting” screen will be displayed with the clicked time period and unit price highlighted.
2. Enter or select the changes and click [OK].

(3) Copying from another pattern

Procedures

1. In the “Special day charges - time period” screen, click [Copy].
2. Select the “Copy from” and “Copy to,” and then click [OK].
   The Copy from source settings will be copied to the Copy to destination.


Copying a pattern setting
OK
Cancel

Select the pattern whose settings are to be copied, and select the pattern to which the copied settings are to be pasted.

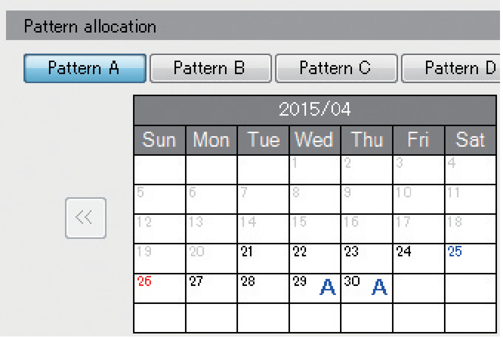
Copy from: A

Copy to: B

(4) To register the pattern for special days

Procedures

1. In “Pattern allocation”, select the pattern and then click the date for which you want to register the pattern in the calendar.
   To cancel a registered pattern, select [Cancel allocation] in “Pattern allocation” and then click the date for which you want to cancel the pattern in the calendar.
   To cancel all the special day settings, click [Cancel all allocations] in “Pattern allocation”. When the “Confirmation” screen is displayed, click [OK].


Pattern allocation
Pattern A
Pattern B
Pattern C
Pattern D
<<

2015/04

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29 A	30 A		

[5] Setting the closing date in “Closing date” screen

Either “End of month” or “Day (1-28) of each month” can be selected.

Procedures

1. First check the closing date with the building owner.
2. Set either [End of month] or [Day (1-28) of each month] as the closing date.
    - If you select [End of month], the electric energy from the 1st of the month to the end of the month will be displayed in the “Energy management list” on the AE-200’s LCD.
    - If you select [Day (1-28) of each month], the electric energy from the day after the closing date to the next closing date will be displayed in the “Energy management list” on the AE-200’s LCD.

Note

- Note that 29th, 30th or 31st cannot be set as the closing date for every month.
- There are two types of “Closing date”: Closing date calculation (automatic output) “Set on the Charge Calculation Tool”; or “Set on the Initial Setting Tool” shown in the energy management list on the AE-200 itself.
  So that electric energy consumed by each tenant matches the electric energy consumption displayed in the energy management list on the AE-200, set the same day as the closing date.

[6] Saving the settings

After the settings are completed, click [Save].

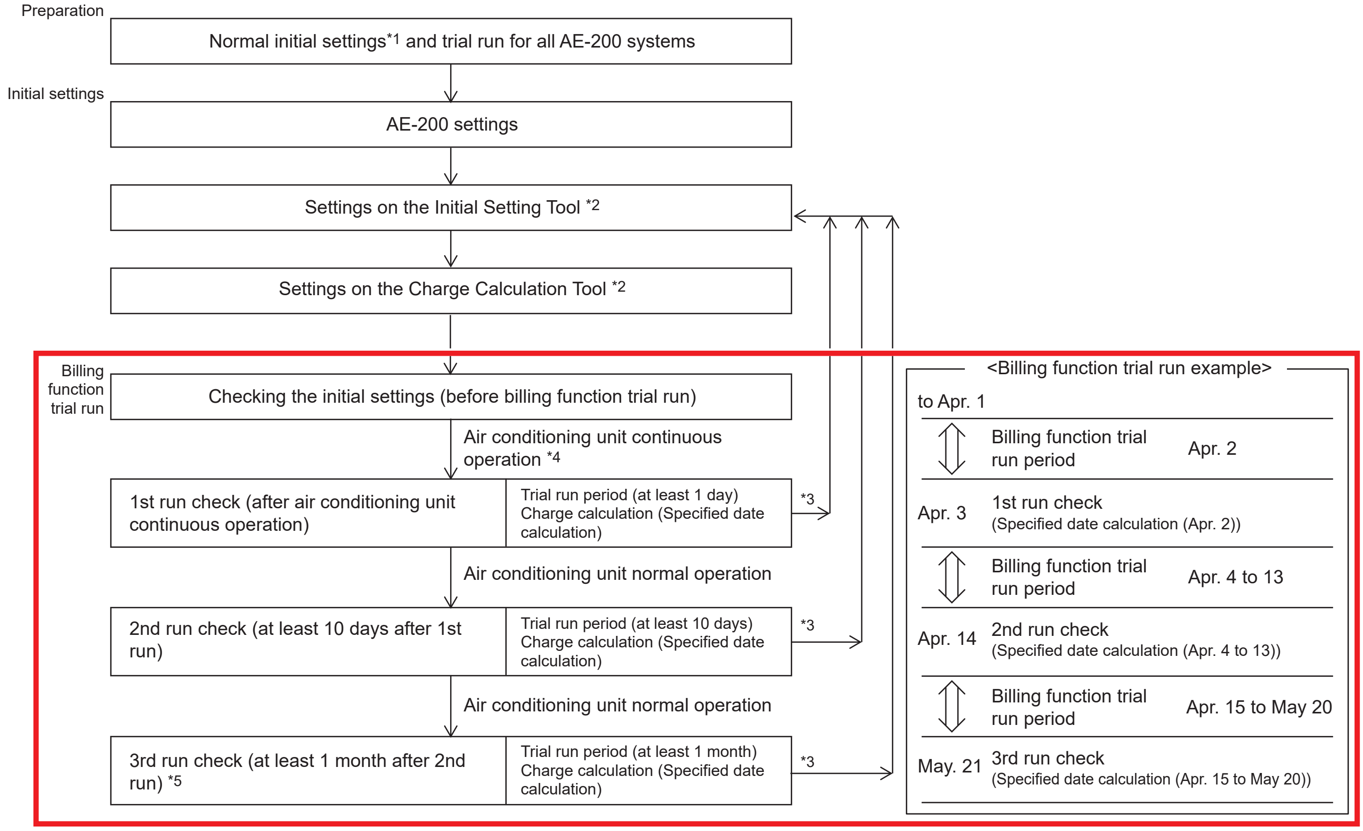
6-8. Settings on the Charge Calculation Tool

For details about the initial setting items on the Charge Calculation Tool, refer to the relevant reference sections in the table below.

◎ : Items required to be set to use an apportioned electricity billing function

Setting item		Charge Calculation Tool	Reference section
Charge Calculation Tool settings	Metering device connection	◎	4-1-2
	Calculation of standby electric energy	◎	
	Currency unit	◎	
	Display order of charge calculation result	◎	
	Merger of energy management blocks with same name	◎	
	Decimal point character for CSV file	◎	
	Separator character for CSV file	◎	
	Unit price settings	◎	
	E-Mail	◎	
	Print setting	◎	3-3-3
	CSV output setting	◎	
	Closing date setting	◎	
	IP address setting	◎	

7. Billing function trial run


Preparation
Normal initial settings*1 and trial run for all AE-200 systems
Initial settings
AE-200 settings
Settings on the Initial Setting Tool *2
Settings on the Charge Calculation Tool *2
Billing function trial run
Checking the initial settings (before billing function trial run)
Air conditioning unit continuous operation *4
1st run check (after air conditioning unit continuous operation)
Trial run period (at least 1 day)
Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
2nd run check (at least 10 days after 1st run)
Trial run period (at least 10 days)
Charge calculation (Specified date calculation)
*3
Air conditioning unit normal operation
3rd run check (at least 1 month after 2nd run) *5
Trial run period (at least 1 month)
Charge calculation (Specified date calculation)
*3
<Billing function trial run example>
to Apr. 1
Billing function trial run period
Apr. 2
Apr. 3
1st run check
(Specified date calculation (Apr. 2))
Billing function trial run period
Apr. 4 to 13
Apr. 14
2nd run check
(Specified date calculation (Apr. 4 to 13))
Billing function trial run period
Apr. 15 to May 20
May. 21
3rd run check
(Specified date calculation (Apr. 15 to May 20))

[1] Complete settings such as unit settings, network settings, license registration, group settings, block settings and measurement settings.

[2] Refer to section 6-1-2 “Required settings to use an apportioned electricity billing function” for items to be set on the Initial Setting Tool and Charge Calculation Tool.

[3] If any setting changes are needed during a billing function trial run, make the settings on the Initial Setting Tool.

[4] Run each indoor unit continuously for at least 2 hours. (Shift the time a little to run the indoor units for each metering device so that the miss-wiring of the metering device can be found.)

[5] Check at least 1 month after the 2nd billing function trial run on the day after the closing date.

Note

- When using a billing function of the BACnet® function, perform the trial run of the billing function of the BACnet® function at the same time. For details about the trial run of the billing function of the BACnet® function, refer to the Instruction Book –BACnet® Apportioned Electricity Billing Function Trial Run–.

7-1. Flow of the billing function trial run

The trial run check for the apportioned electricity billing function should be carried out 3 times.
Conduct billing function trial run checks well ahead of handover.
During the billing function trial run period, check that output is as set on the Charge Calculation Tool.

Checking the billing function settings (check before billing function trial run)

- Adjust the measurement values imported into the centralized controller. (Refer to section 7-1 [1] “Adjusting AE-200 measurement values”.)
- Check that the billing function settings have been completed on the Initial Setting Tool.
- From [Option] > [Output - Check sheet for billing function trial run] on the Initial Setting Tool, output the “Items to be checked during the trial run” check sheet. The Excel sheets that will be output are the “Billing-related item sheet” and the “Unit-related item sheet (for number of expansion controllers)”.
  If there are multiple AE-200 systems, output a check sheet for each system.
- Check the information listed in the billing-related item sheet that was output. (Refer to section 7-2-1 “Billing-related item sheet”.)
- Check the information listed in the unit-related item sheet that was output. (Refer to section 7-2-2 “Unit-related item sheet”.)
- Enter the electricity meter information (model, linear weight, etc.) on the check sheet. (Refer to section 7-2-1 [5] “Checking the electricity meter”.)
- Enter the AE-200 measurement value and the electric power on the electricity meter before the trial run on the check sheet.*1 (Refer to section 7-2-3 “Entering the electric energy”.)
- Run all the indoor units for at least 2 hours (heating or cooling).
  If the air conditioning unit does not readily respond to an ON signal from the thermostat in mild weather season, a trial run of the air conditioning unit is recommended.

1st run: Checking after air conditioning unit continuous operation

- Enter the AE-200 measurement value and the electric power on the electricity meter after the trial run on the check sheet.*2 (Refer to section 7-3-1 [1] (1) “Entering the electric energy (after trial run)”.)
- Check the difference in electric energy between *1 (before trial run) and *2 (after the trial run). (Refer to section 7-3-1 [1] (2) “Checking the difference”.)

*5

- Using a USB memory, acquire the CSV data (metering device) from the AE-200 and enter the values on the billing-related item sheet. (Refer to section 7-3-1 [1] (3) “Checking the data by unit price”.)
- Total up the apportioned electric energy (by unit price) for each metering device on the unit-related item sheet and compare the totals with the measurement results (by unit price) on the billing-related item sheet. (Refer to section 7-3-1 [1] (4) “Checking the data for the different types of data”.)
- Using a USB memory, acquire the CSV data (energy management block) from the AE-200 and enter the CSV data (energy management block) values on the unit-related item sheet. (Refer to section 7-3-1 [2] “Unit-related item sheet”.)
- Compare total apportioned electric energy on the unit-related item sheet (total for all the apportioned electric energy) and the total electric energy on the billing-related item sheet (total for indoor and outdoor units). (Refer to section 7-3-1 [2] “Unit-related item sheet”.)

2nd run: Checking at least 10 days after the 1st run

- From [Option] > [Output - Check sheet for billing function trial run] on the Initial Setting Tool, output the “Items to be checked 10 days after the trial run” check sheet.
- Enter the AE-200 measurement value and the electric power on the electricity meter after the trial run on the check sheet.*3 (Refer to section 7-3-1 [1] (1) “Entering the electric energy (after trial run)”.)
- Check the difference in electric energy between *2 (before trial run) and *3 (after the trial run). (Refer to section 7-3-1 [1] (2) “Checking the difference”.)
- Carry out the checks in *5. (The period is from the 1st trial run to the day before the 2nd trial run.)

3rd run: Checking for the day after the closing date (at least 1 month after 2nd run)

- From [Option] > [Output - Check sheet for billing function trial run] on the Initial Setting Tool, output the “Items to be checked on the next day of the closing date” check sheet.
- Enter the AE-200 measurement value and the electric power on the electricity meter before the trial run on the check sheet.*4 (Refer to section 7-3-1 [1] (1) “Entering the electric energy (after trial run)”.)
- Check the difference in electric energy between *3 (before trial run) and *4 (after trial run). (Refer to section 7-3-1 [1] (2) “Checking the difference”.)
- Carry out the checks in *5. (The period is from the 2nd trial run to the closing date.)

Final checks

- Check again that there are no errors in the settings for actual operation. (Refer to section 7-4-1 “Final checks for the operation settings”.)
- Check that the required fields on all check sheets are entered without any mistake and that there are no mistakes in the measurement results.
- Then present the information to the customer and store it safely.

Note

- This description is for systems where electric energy is metered (with-metering-device method). For systems where the electric energy is entered manually (no-metering-device method), no metering device-related checks are required.
- Three types of billing function trial run check sheets can be output: “Items to be checked after the trial run”, “Items to be checked 10 days after the trial run” and “Items to be checked on the next day of the closing date”. However, if any setting changes are needed during a trial run, make the settings on the Initial Setting Tool and then carry out the billing function trial run checks again.
- If you change any billing function settings, such as changing the energy management block during operation, carry out the billing function trial run checks again.

[1] Adjusting AE-200 measurement values

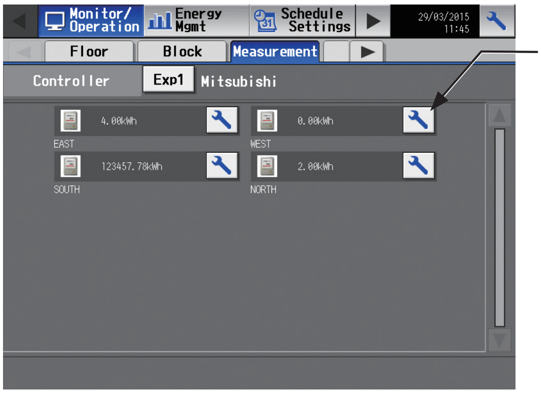
Match the measurement values on the Measurement screen on the AE-200’s LCD to the electricity meter value used in the apportioned electricity billing function.

Procedures

1. Go to [Initial Settings] > [Unit Info. 2] and set “Test run” to [Use]. Then touch [Save Settings].
2. Touch [Monitor/Operation] > [Measurement] to display the Measurement screen.
3. Touch “Controller” and select the centralized controller with the electricity meter connected.
4. Touch the “Measurement value edit” icon (🔧) beside the electric energy to open the Measurement value edit screen.
5. Touch “Edit the adjusted measurement value” and enter the current electricity meter value. Then touch [OK].
6. After completing the editing, return to [Initial Settings] > [Unit Info. 2] screen and set “Test run” back to [Do not use]. Then touch [Save Settings].

* Because the display does not change even if a pulse is input while the Measurement value edit screen is displayed, it is recommended that the values be edited while the air conditioning unit is stopped.

* Editing the electric energy only changes the display in this screen. It does not affect the charge outcomes, etc.



29/03/2015 11:45

Controller Exp1 Mitsubishi

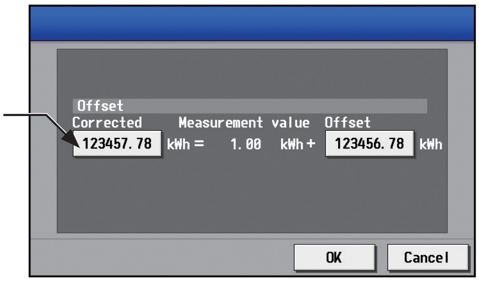
EAST 4.00kWh

WEST 0.00kWh

SOUTH 123457.78kWh

NORTH 2.00kWh

Measurement screen



Offset

Corrected 123457.78 kWh = Measurement value 1.00 kWh + Offset 123456.78 kWh

Measurement value edit screen

[2] Checking the time settings

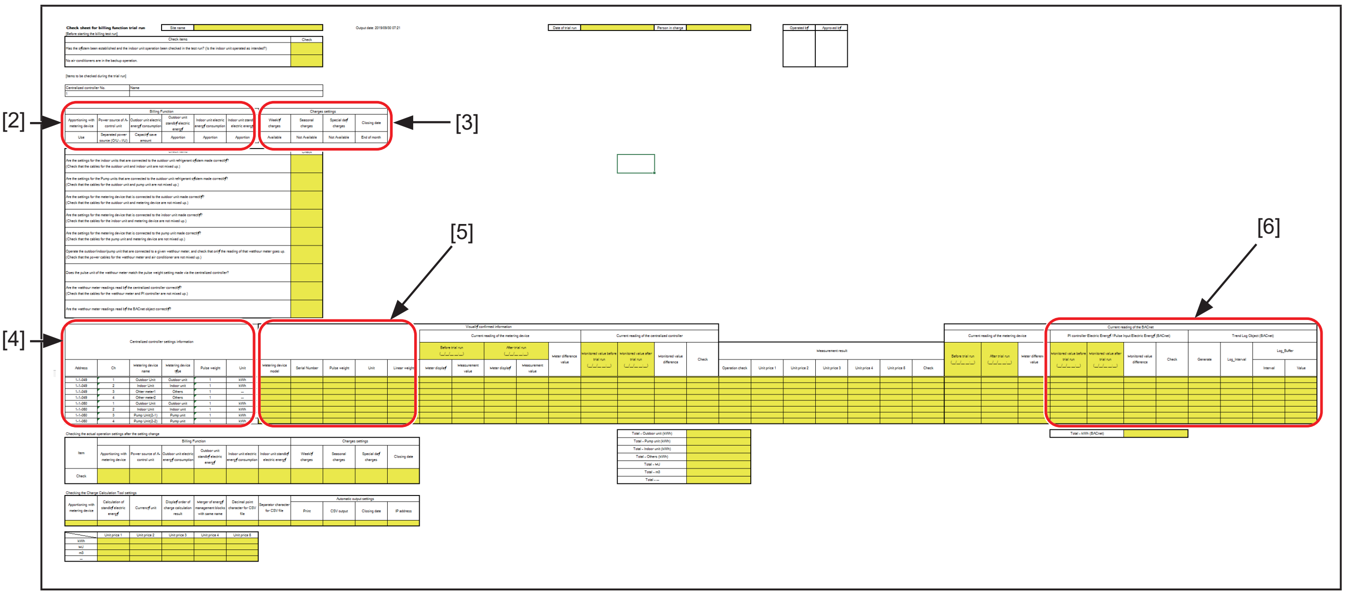
Check that there are no time lags between the current time and the time of AE-200 and all expansion controllers by displaying the current date and time settings screen on the Web Browser for Initial Settings.

7-2. Checking the billing function settings (check before billing function trial run)

From [Option] > [Output - Check sheet for billing function trial run] on the Initial Setting Tool, output the “Items to be checked after the trial run” check sheet (Excel sheet). Two sheets exist in the Excel sheet output, the “Billing-related item sheet” and the “Unit-related item sheet”.
If there are multiple AE-200 systems, output an “Items to be checked after the trial run” check sheet for each system.

7-2-1. Billing-related item sheet

There will be 1 billing-related item sheet for each AE-200 system.



[1] Before starting the billing trial run

Carry out checks, and if there are no problems, put a check in the check column.

[Before starting the billing test run]

Check items	Check
Has the system been established and the indoor unit operation been checked in the test run? (Is the indoor unit operated as intended?)	
No air conditioners are in the backup operation.	

[2] Billing function settings

Check that none of the settings differ from those set in section 6-7-1 “Billing function settings”.

Billing Function					
Apportioning with metering device	Power source of A-control unit	Outdoor unit electric energy consumption	Outdoor unit standby electric energy	Indoor unit electric energy consumption	Indoor unit standby electric energy
Use	Same power source (O/U - I/U)	Capacity save amount	Apportion	Apportion	Apportion
①	②	③	④	⑤	⑥

① Apportioning with metering device (Use/Non-use)
② Power source of A-control unit (Same power source (O/U - I/U)/Separated power source (O/U - I/U))
③ Outdoor unit operating electric energy (Capacity save amount/Thermo-ON time/FAN operation time)
④ Outdoor unit standby electric energy (Apportion/Not apportion)
⑤ Indoor unit operating electric energy (Apportion/Not apportion)
⑥ Indoor unit standby electric energy (Apportion/Not apportion)

[3] Charges settings

Check that none of the settings differ from those set in section 6-7-5 “Charges settings”.

Charges settings			
Weekly charges	Seasonal charges	Special day charges	Closing date
Available	Available	Available	End of month
⑦	⑧	⑨	⑩

⑦ Weekly charges (Available)

⑧ Seasonal charges (Available/Not Available)

⑨ Special day charges (Available/Not Available)
This will be judged based on the number of pattern allocation “0” (Not Available) or “1 or more” (Available).

⑩ Closing date (End of month/Day XX of each month)

Note

- There are two types of “Closing date”: Calculation on the closing date (automatic output) “Charge Calculation Tool settings”; or energy management display (monthly) “Initial Setting Tool settings” shown on the AE-200’s LCD. Set the same closing date so that the electric energy consumed by each tenant matches the electric energy consumption displayed in the energy management list on the AE-200’s LCD.

[4] Centralized controller settings (for systems with metering devices)

Check that there are no errors in the settings. (Check that none of the settings differ from those set in section 6-6-6 “PI controller settings”.)

Centralized controller settings information					
Address	Ch	Metering device name	Metering device type	Pulse weight	Unit
1-1-050	1	Outdoor Unit	Outdoor unit	1	kWh
1-1-050	2	Indoor Unit	Indoor unit	1	kWh
⑪	⑫	⑬	⑭	⑮	⑯

⑪ Address
For a PI controller, this will be shown as “(Expansion controller No.) - (Unit address)”.

⑫ Ch

⑬ Metering device name
For a PI controller, if the name of the metering device is not registered, this will be shown as “(Unit address) - (Ch)”.

⑭ Metering device type
This shows the unit type set in section 6-7-4 “Measurement settings”.

⑮ Pulse weight

⑯ Unit

[5] Checking the electricity meter

Enter the information for the electricity meter installed at the site.

Visually confirmed information							
					Current reading of the metering device		Current reading of the centralized controller
					Before trial run (__/_/_ _:_)		Monitored value before trial run (____/__/__ __:__)
Metering device model	Serial Number	Pulse weight	Unit	Linear weight	Meter display	Measurement value	
M2LHM-**	064247	1	kWh/pulse	1			
M2LHM-**	064248	1	kWh/pulse	1			
⑰	⑱	⑲	⑳	㉑			

Visually confirmed information

⑰ Enter the metering device model.

⑱ Enter the serial number.

⑲ Enter the pulse weight.

⑳ Enter the unit.

㉑ Enter the linear weight.

Note

- The actual electricity meter may list the pulse weight as [pulse/kWh].
  In this case, set the pulse weight as the inverse [kWh/pulse] value.
  E.g. For a [pulse/kWh] value of 10, set the pulse value to 0.1 [kWh/pulse].

[6] Checking the BACnet® function

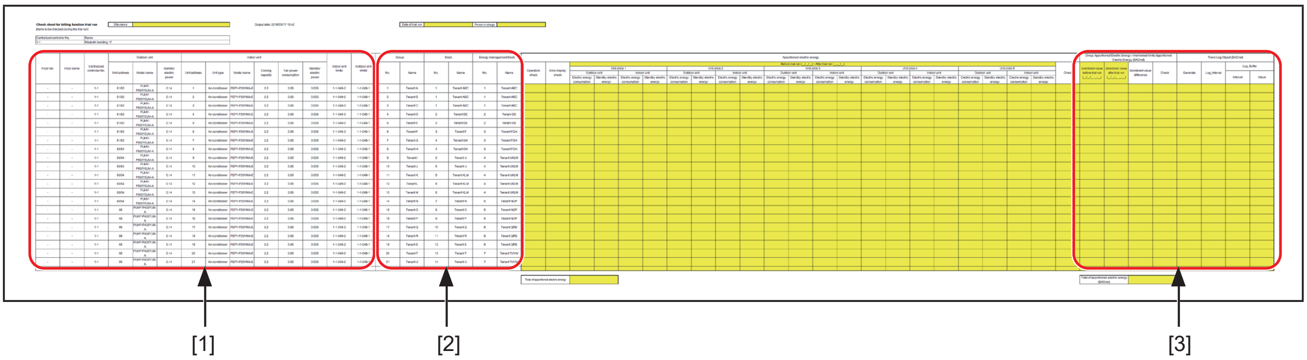
This item is output when the Initial Setting Tool Ver. 1.20 or later is used.
When using BACnet® function, refer to the Instruction Book –BACnet® Apportioned Electricity Billing Function Trial Run–.

Note

- When not using BACnet® function, clicking the ⊟ button on the Excel screen can hide the information of the BACnet® billing function trial run.

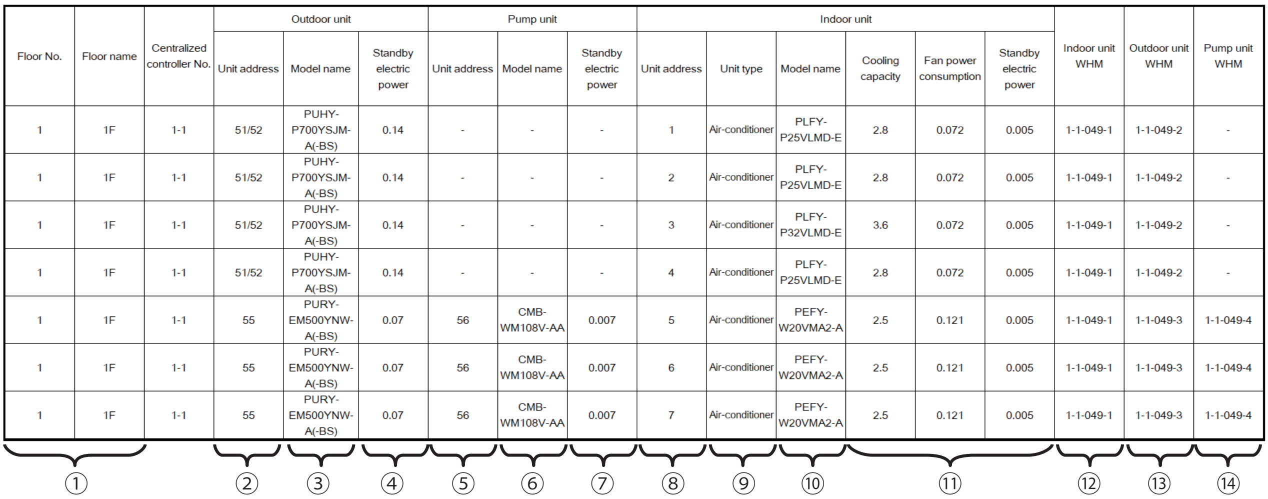
7-2-2. Unit-related item sheet

There will be 1 unit sheet for each AE-50/EW-50.



[1] Outdoor/indoor unit settings

Check that there are no errors in the settings.



Floor No.	Floor name	Centralized controller No.	Outdoor unit			Pump unit			Indoor unit						Indoor unit WHM	Outdoor unit WHM	Pump unit WHM
			Unit address	Model name	Standby electric power	Unit address	Model name	Standby electric power	Unit address	Unit type	Model name	Cooling capacity	Fan power consumption	Standby electric power			
1	1F	1-1	51/52	PUHY-P700YSJM-A(-BS)	0.14	-	-	-	1	Air-conditioner	PLFY-P25VLMD-E	2.8	0.072	0.005	1-1-049-1	1-1-049-2	-
1	1F	1-1	51/52	PUHY-P700YSJM-A(-BS)	0.14	-	-	-	2	Air-conditioner	PLFY-P25VLMD-E	2.8	0.072	0.005	1-1-049-1	1-1-049-2	-
1	1F	1-1	51/52	PUHY-P700YSJM-A(-BS)	0.14	-	-	-	3	Air-conditioner	PLFY-P32VLMD-E	3.6	0.072	0.005	1-1-049-1	1-1-049-2	-
1	1F	1-1	51/52	PUHY-P700YSJM-A(-BS)	0.14	-	-	-	4	Air-conditioner	PLFY-P25VLMD-E	2.8	0.072	0.005	1-1-049-1	1-1-049-2	-
1	1F	1-1	55	PURY-EM500YNW-A(-BS)	0.07	56	CMB-WM108V-AA	0.007	5	Air-conditioner	PEFY-W20VMA2-A	2.5	0.121	0.005	1-1-049-1	1-1-049-3	1-1-049-4
1	1F	1-1	55	PURY-EM500YNW-A(-BS)	0.07	56	CMB-WM108V-AA	0.007	6	Air-conditioner	PEFY-W20VMA2-A	2.5	0.121	0.005	1-1-049-1	1-1-049-3	1-1-049-4
1	1F	1-1	55	PURY-EM500YNW-A(-BS)	0.07	56	CMB-WM108V-AA	0.007	7	Air-conditioner	PEFY-W20VMA2-A	2.5	0.121	0.005	1-1-049-1	1-1-049-3	1-1-049-4

① Floor No., Floor name
From [Monitor/Operation] > [Floor] on the AE-200's LCD, enter the floor number and name, and then check that there are no incorrect settings.
When the Initial Setting Tool Ver. 1.10 or later is used, the contents of the floor settings will be output.

② Outdoor unit address

③ Outdoor unit model name
When the Initial Setting Tool Ver. 1.20 or later is used, the model name set in "Outdoor unit settings" will be output.

④ Outdoor unit standby electric power

⑤ (HVRF system only) Pump unit address

⑥ (HVRF system only) Pump unit model name
When the Initial Setting Tool Ver. 1.80 or later is used, the model name set in "Outdoor unit settings" will be output.

⑦ (HVRF system only) Pump unit standby electric power

⑧ Indoor unit address

⑨ Indoor unit type

⑩ Indoor unit model name
When the Initial Setting Tool Ver. 1.20 or later is used, the model name set in "Indoor unit settings" will be output.

⑪ Indoor unit (Cooling capacity, Fan power consumption, Standby electric power)

⑫ Indoor unit WHM*
Check that this is correctly output on the electricity meter connected to the indoor unit.

⑬ Outdoor unit WHM*
Check that this is correctly output on the electricity meter connected to the outdoor unit.

⑭ Pump unit WHM*
(HVRF system only) Check that this is correctly output on the electricity meter connected to the pump unit.

* For a PI controller

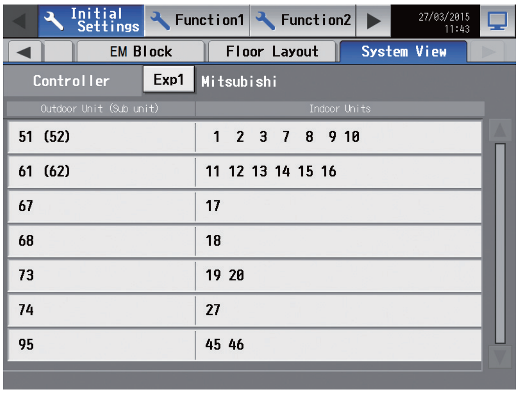
$\underbrace{1\text{-}1}_{\text{Ⓐ}}\text{-}\underbrace{050}_{\text{Ⓑ}}\text{-}\underbrace{1}_{\text{Ⓒ}}$

For a built-in Pulse Input (PI)

$\underbrace{1\text{-}1}_{\text{Ⓐ}}\text{-}\underbrace{1}_{\text{Ⓒ}}$

Ⓐ Expansion controller No.
Ⓑ Unit address
Ⓒ CH No.

For ② , ⑤ , and ⑧ , check the connection relationships between the outdoor units, pump units, and indoor units from [Initial Settings] > [System View] on the AE-200's LCD.



Outdoor Unit (Sub unit)	Indoor Units
51 (52)	1 2 3 7 8 9 10
61 (62)	11 12 13 14 15 16
67	17
68	18
73	19 20
74	27
95	45 46

Check that the outdoor unit model name, pump unit model name, and indoor unit model name are entered in ③ , ⑥ , and ⑩ , and check that each combination of the outdoor unit, pump unit, and indoor unit is correct.
Check that ⑧ and ⑨ are entered correctly using the addresses and types set in section 6-6-1 "Group settings".
Check that ② and ④ are entered correctly using the outdoor unit addresses and standby electric power set in section 6-7-2 "Outdoor unit settings".
If there are sub-units (OS1, OS2) connected to an outdoor unit, the standby electric power should be the total of the main unit and sub-units.
Check that ⑧ and ⑪ are entered correctly using the cooling capacity, fan power consumption and standby electric power set for each indoor unit address in section 6-7-3 "Indoor unit settings".
Check that ⑧ and ⑫ are entered correctly using the indoor unit addresses and indoor unit electricity meters set in section 6-7-4 "Measurement settings".
Check that ② and ⑬ are entered correctly using the outdoor unit addresses and outdoor unit electricity meters set in section 6-7-4 "Measurement settings".
Check that ⑤ and ⑭ are entered correctly using the pump unit addresses and pump unit electricity meters set in section 6-7-4 "Measurement settings".

Note

- For the outdoor unit (address: 51) and outdoor sub-unit (address: 52), the output unit address will be 51/52 and the output standby electric power will be 0.14.
- For a LOSSNAY unit, [-] will be displayed for the outdoor unit address, standby electric power and indoor unit cooling capacity.
- For a DIDO controller, AI controller or PI controller, [-] will be displayed for the outdoor unit address and standby electric power, the indoor unit cooling capacity, and the fan power consumption and standby electric power.
- The charge calculation results will be output for each energy management block.
- A-control units will not be displayed on the "System View" screen. Check their connection status separately.

[2] Indoor unit settings (group, block, energy management block)

Check that there are no errors in the settings.

Floor No.	Floor name	Centralized controller No.	Indoor unit	Group		Block		Energy management block	
			Unit address	No.	Name	No.	Name	No.	Name
1	1F	1-1	1	1	Tenant A	1	Tenant ABC	1	Tenant ABC
1	1F	1-1	2	2	Tenant B	1	Tenant ABC	1	Tenant ABC
1	1F	1-1	3	3	Tenant C	1	Tenant ABC	1	Tenant ABC
1	1F	1-1	4	4	Tenant D	2	Tenant DE	2	Tenant DE
1	1F	1-1	5	5	Tenant E	2	Tenant DE	2	Tenant DE
1	1F	1-1	6	6	Tenant F	3	Tenant F	3	Tenant FGH
1	1F	1-1	7	7	Tenant G	4	Tenant GH	3	Tenant FGH

⑮ ⑯ ⑰

⑮ Group

Check that there are no errors in the group names or in the correlations between the indoor unit addresses and group numbers set in section 6-6-1 “Group settings”.

⑯ Operation block

Check that there are no errors in the block names or in the correlations between the group numbers and block numbers set in section 6-6-4 “Block settings”.

⑰ Energy management block

Check that there are no errors in the energy management block names or in the correlations between the block numbers and energy management block numbers set in section 6-6-5 “Energy management block settings”.

[3] Checking the BACnet® function

This item is output when the Initial Setting Tool Ver. 1.20 or later is used.
When using BACnet® function, refer to the Instruction Book –BACnet® Apportioned Electricity Billing Function Trial Run–.

Note

- When not using BACnet® function, clicking the ⊟ button on the Excel screen can hide the information of the BACnet® billing function trial run.

7-2-3. Entering the electric energy

Enter the electric power value of the electricity meter and the AE-200 measurement values in the billing-related item sheet.

Visually confirmed information							
					Current reading of the metering		Current reading of the centralized controller
					Before trial run ① (2015/04/02 10:04)		Monitored value before trial run ④ (2015/04/02 10:13)
Metering device model	Serial Number	Pulse weight	Unit	Linear weight	Meter display	Measurement value	
M2LHM-**	064247	1	kWh/pulse	1	1000	1000	1001
M2LHM-**	064248	1	kWh/pulse	1	170	170	171
					②	③	⑤

Current reading of the metering device

① Enter the confirmed date and time.

② Enter the meter display before the trial run (5-digit number).

③ Enter the measurement value before the trial run (meter display value × linear weight).

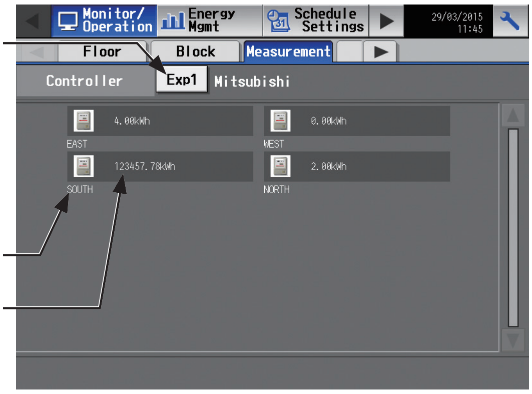
Current reading of the centralized controller

④ Enter the confirmed date and time.

⑤ Enter the monitored value before trial run from [Monitor/Operation] > [Measurement] on the AE-200’s LCD.

Note

- To display the measurement data on the AE-200’s LCD, touch [Monitor/ Operation] > [Measurement].


Monitor/ Operation
Energy Mgmt
Schedule Settings
29/03/2015 11:45
Floor
Block
Measurement
Controller
Exp1
Mitsubishi
4.00kWh
EAST
0.00kWh
WEST
123457.78kWh
SOUTH
2.00kWh
NORTH

Controller
Select [AE200] to display the data for AE-200, and select between [Exp1] though [Exp4] to display the data for each AE-50/EW-50.

Measurement item

Measurement value

Measurement screen on the AE-200’s LCD

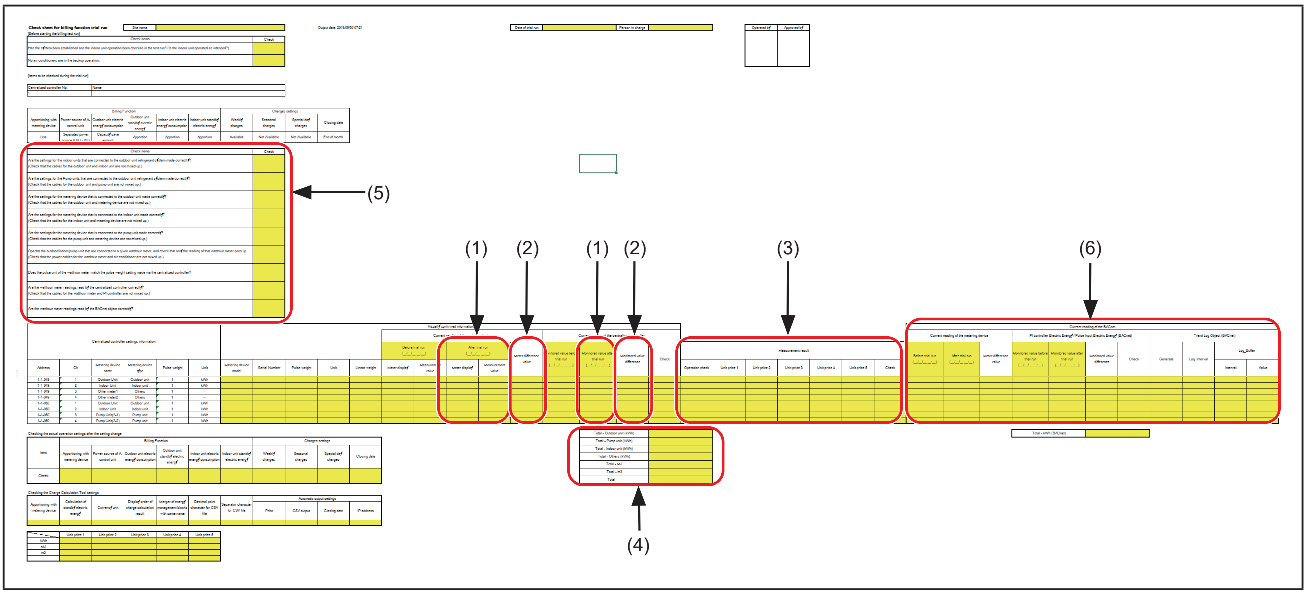
7-3. Billing function trial run checks

If any of the numbers deviated during billing function trial run checks, modify the settings and then carry out another billing function trial run.

7-3-1. 1st run check (after air conditioning unit continuous operation)

Once the billing function settings are complete (before continuous operation), check after the air conditioning units have been run for at least 2 hours. (Shift the time a little to run the air conditioning units for each metering device so that the miss-wiring of the metering device can be found.)
Use the check sheet printed out in the previous section.

[1] Billing-related item sheet



(1) Entering the electric energy (after trial run)

Enter the electricity meter value and AE-200 measurement value after the trial run.

Centralized controller settings information				Visually confirmed information								
				Current reading of the metering device					Current reading of the centralized controller			
				Before trial run (2015/04/02 10:04)		After trial run (2015/04/03 9:12) ①		Meter difference value	Monitored value before trial run (2015/04/02 10:13)	Monitored value after trial run ④ (2015/04/03 9:24)	Monitored value difference	Check
Address	Ch	Metering device name	Metering device model	Meter display	Measurement value	Meter display	Measurement value					
1-1-050	1	Outdoor Unit	M2LHM-**	1000	1000	1060	1060		1001	1061		
1-1-050	2	Indoor Unit	M2LHM-**	170	170	185	185		171	185		
						②	③			⑤		

Current reading of the metering device

① Enter the confirmed date and time.

② Enter the meter display after the trial run.

③ Enter the measurement value after the trial run.

Current reading of the centralized controller

④ Enter the confirmed date and time.

⑤ Enter the monitored value after the trial run.

Note

- Refer to section 7-2-3 “Entering the electric energy” for details.

(2) Checking the difference

Centralized controller settings information				Visually confirmed information								
				Current reading of the metering device					Current reading of the centralized controller			
				Before trial run (2015/04/02 10:04)		After trial run (2015/04/03 9:12)		Meter difference value	Monitored value before trial run (2015/04/02 10:13)	Monitored value after trial run (2015/04/03 9:24)	Monitored value difference	Check
Address	Ch	Metering device name	Metering device model	Meter display	Measurement value	Meter display	Measurement value					
1-1-050	1	Outdoor Unit	M2LHM-**	1000	1000	1060	1060	60	1001	1061	60	✓
1-1-050	2	Indoor Unit	M2LHM-**	170	170	185	185	15	171	185	14	✓
								⑥			⑦	⑧

⑥ Calculate the meter difference value from the current reading of the metering device (monitored value after trial run - monitored value before trial run).
Check that the value of the difference in electric energy on the electricity meter is not “0”.

⑦ Calculate the meter difference from the current reading of the centralized controller.
Check that the difference in the monitored value is not “0”. If the difference is “0”, check if the pulse value setting on the [PI Controller] screen is correct.

⑧ Check whether the measurement value and monitored value have increased since before the trial run.
Check whether ⑥ and ⑦ are almost identical. If there are no problems, put a check in the check column.

Note

- The actual electric energy calculations may not match perfectly due to differences in the times when visual confirmation was carried out.

(3) Checking the data by unit price

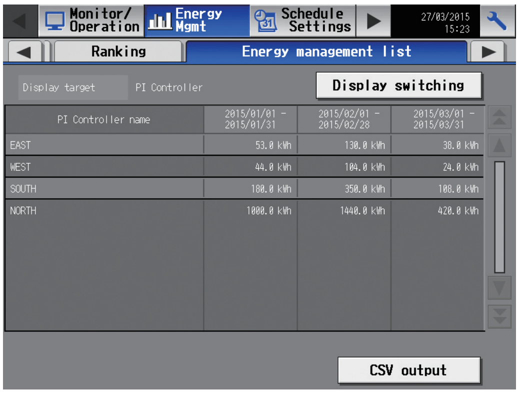
Output a CSV data (apportioned calculation results) “PI Controller (metering device)” from the AE-200 and enter the values.

Extracting the CSV data

Procedures

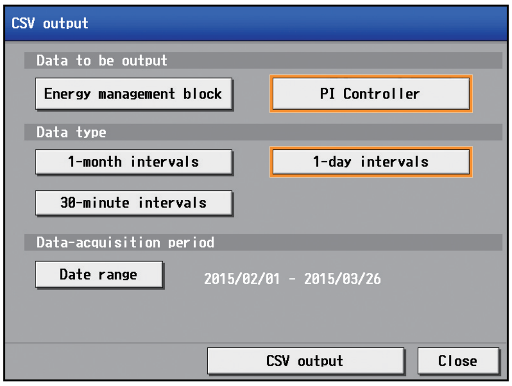
1) When outputting the CSV data from AE-200 using a USB memory

1. Remove the AE-200 cover and connect a USB memory to the AE-200.
2. Go to [Energy Mgmt] > [Energy management list] screen and select [CSV output].



Display target PI Controller

PI Controller name	2015/01/01 - 2015/01/31	2015/02/01 - 2015/02/28	2015/03/01 - 2015/03/31
EAST	53.0 kWh	130.0 kWh	38.0 kWh
WEST	44.0 kWh	104.0 kWh	24.0 kWh
SOUTH	180.0 kWh	350.0 kWh	108.0 kWh
NORTH	1000.0 kWh	1440.0 kWh	420.0 kWh

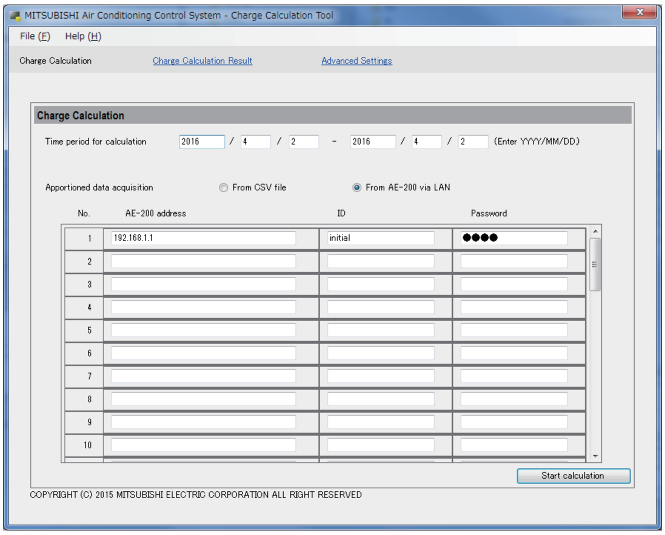


Data to be output: PI Controller
Data type: 1-day intervals
Data-acquisition period: Date range 2015/02/01 - 2015/03/26

3. Set the period when the billing function trial run was carried out, and with [PI Controller] (metering device) and [1-day intervals] selected, touch [CSV output].
The electric energy for each unit price in the specified time period will be displayed. Enter the information on the check sheet.

2) When outputting the CSV data using the Charge Calculation Tool via a LAN

1. Start up the Charge Calculation Tool, and make the following settings on the “Charge Calculation” screen.
    - Set the trial run time period in “Time period for calculation”.
    - Select [From AE-200 via LAN] in “Apportioned data acquisition”.
    - Set the address of the AE-200 to be extracted and the ID and password of the building manager.
2. Click [Start calculation].
3. After the charge calculation, open the CSV file (M_XX_App_IC_YYYYYY_ZZZ.csv (XX: AE-200 No.; YY and ZZ: Output date)) used for the calculation in “My Documents\CCTool\Log\(Date)” folder.


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Charge Calculation
Start calculation

Time period for calculation 2016 / 4 / 2 - 2016 / 4 / 2 (Enter YYYY/MM/DD)

Apportioned data acquisition ○ From CSV file ● From AE-200 via LAN

No.	AE-200 address	ID	Password
1	192.168.1.1	initial	●●●●
2			
3			
4			
5			
6			
7			
8			
9			
10			

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CSV data (apportioned calculation results) [Metering device]

611	Apportioned calculation results (Metering device)							
Time period:2015/04/02 00:00 – 2015/04/03 00:00								
Metering device name	Unit address	Measurement value	(Unit price 1)	(Unit price 2)	(Unit price 3)	(Unit price 4)	(Unit price 5)	Measurement unit
PI	1−050−1	60	40	20	0	0	0	kWh
PI	1−050−2	15	10	5	0	0	0	kWh

Billing-related sheet

Centralized controller settings information				Measurement result					
Address	Ch	Metering device	Metering device type	Operation check	Unit price 1	Unit price 2	Unit price 3	Unit price 4	Unit price 5
1-1-050	1	Outdoor Unit	Outdoor unit	✓	40	20			
1-1-050	2	Indoor Unit	Indoor unit	✓	10	5			

⑨ ⑩

⑨ Check that measurement was able to be carried out successfully (with no errors) during the trial run. If it was successful, put a check in the check column.

⑩ Extract the CSV data for 1-day intervals for the AE-200 metering device and check the electric energy data for each unit price. The entry for items with no unit price set will be “0”.

(4) Checking the data for the different types of data

Total - Outdoor unit (kWh)	60	⑪
Total - Pump unit (kWh)	40	
Total - Indoor unit (kWh)	15	
Total - Others (kWh)	0	
Total - MJ	0	
Total - m3	0	
Total - --	0	

⑪ Calculate the totals for each metering device and enter the total value.

- If the pulse weight [kWh] is selected in “Unit Settings” > “PI Controller” and [Outdoor unit] is selected as the unit type in “Billing Function Settings” > “Measurement” on the Initial Setting Tool, calculate the total in Total - Outdoor unit (kWh) column. Likewise, if [Pump unit] is selected as the unit type, calculate the total in Total - Pump unit (kWh) column, if [Indoor unit] is selected as the unit type, calculate the total in Total - Indoor unit (kWh) column, and if [Other] is selected, calculate the total in Total - Others (kWh) column.
- If “Pulse weight [MJ]” is selected in “Unit Settings” > “PI Controller”, calculate the total in Total - MJ column.
- If “Pulse weight [m3]” is selected in “Unit Settings” > “PI Controller”, calculate the total in Total - m3 column.
- If “Pulse weight [--]” is selected in “Unit Settings” > “PI Controller”, calculate the total in Total - -- column.

Note

- If [Same power source (O/U - I/U)] is selected as Power source of A-control unit in “Billing Function Settings” > “Billing Function”, the total will be calculated in Total - Outdoor unit (kWh) column.
- If [Separated power source (O/U - I/U)] is selected as Power source of A-control unit in “Billing Function Settings” > “Billing Function”, the totals will be calculated separately in Total - Indoor unit (kWh) and Total - Outdoor unit (kWh) columns.

(5) Checks

Carry out final checks, and if there are no incorrect settings, put a check in the check column.

Check items	Check
Are the settings for the indoor units that are connected to the outdoor unit refrigerant system made correctly? (Check that the cables for the outdoor unit and indoor unit are not mixed up.)	
Are the settings for the Pump units that are connected to the outdoor unit refrigerant system made correctly? (Check that the cables for the outdoor unit and pump unit are not mixed up.)	
Are the settings for the metering device that is connected to the outdoor unit made correctly? (Check that the cables for the outdoor unit and metering device are not mixed up.)	
Are the settings for the metering device that is connected to the indoor unit made correctly? (Check that the cables for the indoor unit and metering device are not mixed up.)	
Are the settings for the metering device that is connected to the pump unit made correctly? (Check that the cables for the pump unit and metering device are not mixed up.)	
Operate the outdoor/indoor/pump unit that are connected to a given watthour meter, and check that only the reading of that watthour meter goes up. (Check that the power cables for the watthour meter and air conditioner are not mixed up.)	
Does the pulse unit of the watthour meter match the pulse weight setting made via the centralized controller?	
Are the watthour meter readings read by the centralized controller correctly? (Check that the cables for the watthour meter and PI controller are not mixed up.)	
Are the watthour meter readings read by the BACnet object correctly?	

(6) Checking the BACnet® function

When using BACnet® function, refer to the Instruction Book –BACnet® Apportioned Electricity Billing Function Trial Run–.

[2] Unit-related item sheet

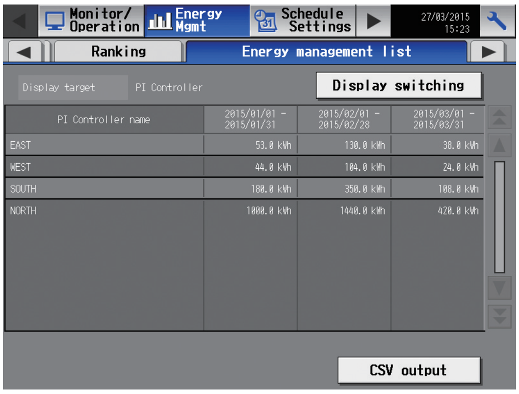
Output the “Energy management block” CSV data (apportioned results) from the AE-200 and enter the values.

Extracting the CSV data

Procedures

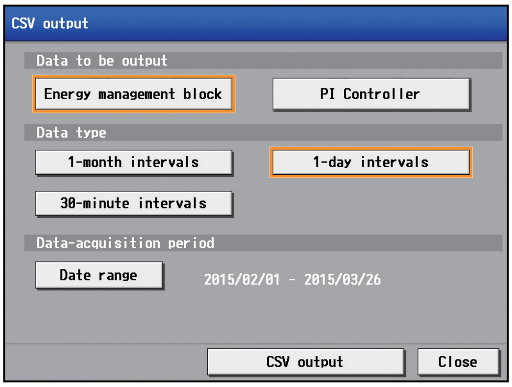
1) When outputting the CSV data from AE-200 using a USB memory

1. Remove the AE-200 cover and connect a USB memory to the AE-200.
2. Go to [Energy Mgmt] > [Energy management list] screen and select [CSV output].


Monitor/ Operation
Energy Mgmt
Schedule Settings
27/03/2015 15:23
Ranking
Energy management list
Display switching
CSV output

Display target PI Controller

PI Controller name	2015/01/01 - 2015/01/31	2015/02/01 - 2015/02/28	2015/03/01 - 2015/03/31
EAST	53.0 kWh	130.0 kWh	38.0 kWh
WEST	44.0 kWh	104.0 kWh	24.0 kWh
SOUTH	180.0 kWh	350.0 kWh	108.0 kWh
NORTH	1000.0 kWh	1440.0 kWh	420.0 kWh


CSV output
Energy management block
PI Controller
1-month intervals
1-day intervals
30-minute intervals
Date range
CSV output
Close

Data to be output: Energy management block

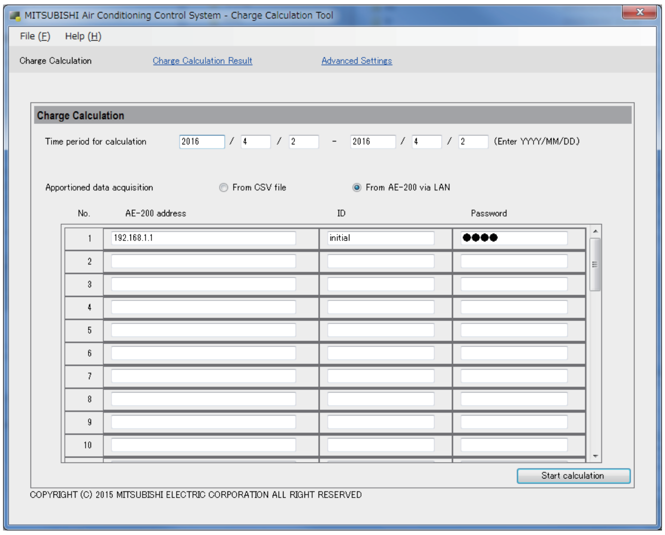
Data type: 1-day intervals

Data-acquisition period: 2015/02/01 - 2015/03/26

3. Set the period when the billing function trial run was carried out, and with [Energy management block] and [1-day intervals] selected, touch [CSV output].
   The electric energy for each unit price in the specified time period will be displayed. Enter the information on the check sheet.

2) When outputting the CSV data using the Charge Calculation Tool via a LAN

1. Start up the Charge Calculation Tool, and make the following settings on the “Charge Calculation” screen.
   - Set the trial run time period in “Time period for calculation”.
   - Select [From AE-200 via LAN] in “Apportioned data acquisition”.
   - Set the address of the AE-200 to be extracted and the ID and password of the building manager.
2. Click [Start calculation].
3. After the charge calculation, open the CSV file (M_XX_App_IC_YYYYYY_ZZZ.csv (XX: AE-200 No.; YY and ZZ: Output date)) used for the calculation in “My Documents\CCTool\Log\(Date)” folder.


MITSUBISHI Air Conditioning Control System - Charge Calculation Tool
File (F)
Help (H)
Charge Calculation
Charge Calculation Result
Advanced Settings
Charge Calculation
Start calculation

Time period for calculation 2016 / 4 / 2 - 2016 / 4 / 2 (Enter YYYY/MM/DD)

Apportioned data acquisition ○ From CSV file ● From AE-200 via LAN

No.	AE-200 address	ID	Password
1	192.168.1.1	initial	●●●●
2			
3			
4			
5			
6			
7			
8			
9			
10			

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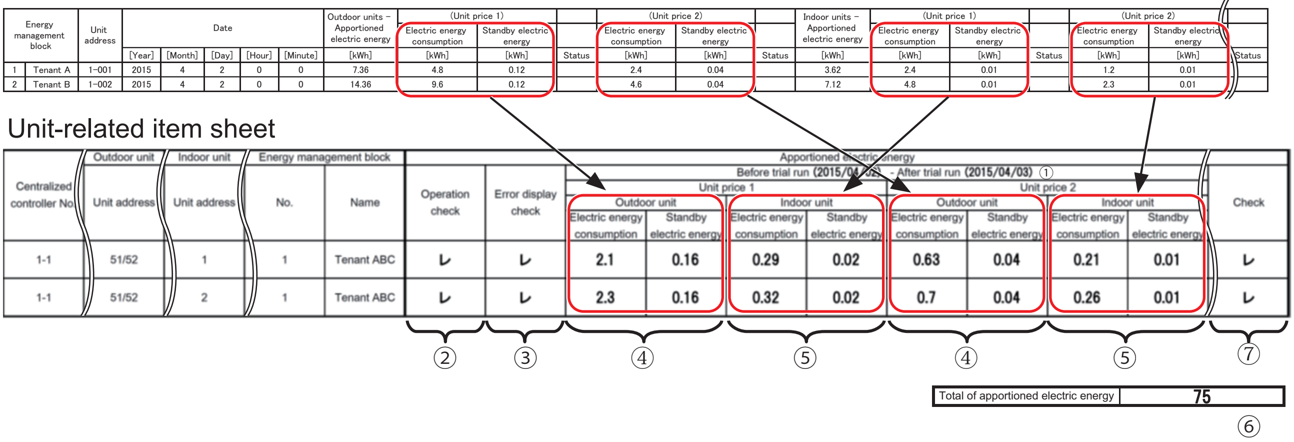
CSV data (apportioned calculation results) “Energy management block”

* If “-2” is shown in “Status”, data was not carried over for that day because apportionment could not be calculated for that day.



Energy management block		Unit address	Date					Outdoor units – Apportioned electric energy	(Unit price 1)			(Unit price 2)			Indoor units – Apportioned electric energy	(Unit price 1)			(Unit price 2)		
									Electric energy consumption	Standby electric energy		Electric energy consumption	Standby electric energy			Electric energy consumption	Standby electric energy		Electric energy consumption	Standby electric energy	
			[Year]	[Month]	[Day]	[Hour]	[Minute]	[kWh]	[kWh]	[kWh]	Status	[kWh]	[kWh]	Status	[kWh]	[kWh]	[kWh]	Status	[kWh]	[kWh]	Status
1	Tenant A	1–001	2015	4	2	0	0	7.36	4.8	0.12		2.4	0.04		3.62	2.4	0.01		1.2	0.01	
2	Tenant B	1–002	2015	4	2	0	0	14.36	9.6	0.12		4.6	0.04		7.12	4.8	0.01		2.3	0.01	

Unit-related item sheet

Centralized controller No	Outdoor unit	Indoor unit	Energy management block		Operation check	Error display check	Apportioned electric energy								Check
							Before trial run (2015/04/02) - After trial run (2015/04/03) ①								
							Unit price 1				Unit price 2				
							Outdoor unit		Indoor unit		Outdoor unit		Indoor unit		
	Unit address	Unit address	No.	Name			Electric energy consumption	Standby electric energy	Electric energy consumption	Standby electric energy	Electric energy consumption	Standby electric energy	Electric energy consumption	Standby electric energy	
1-1	51/52	1	1	Tenant ABC	✓	✓	2.1	0.16	0.29	0.02	0.63	0.04	0.21	0.01	✓
1-1	51/52	2	1	Tenant ABC	✓	✓	2.3	0.16	0.32	0.02	0.7	0.04	0.26	0.01	✓

Total of apportioned electric energy	75

(1) Check that the trial run was carried out successfully.

① Enter the date and time for the billing function trial run period.

② Check that the trial run was able to be carried out successfully (with no errors) during the trial run and, if so, put a check in the check column.

③ Cause an error and check that the error is displayed. If so, put a check in the check column.

(2) Complete the check sheet using the CSV data for the AE-200 energy management block for 1-day intervals.

④ In the check sheet, enter the amounts of operating electric energy and standby electric energy for unit prices 1-5 for each of the outdoor units.

⑤ In the check sheet, enter the amounts of operating electric energy and standby electric energy for unit prices 1-5 for each of the indoor units.

(3) Check that the total amount of electric energy is correct.

⑥ Check that electric energy totals for the indoor and outdoor units connected to each electricity meter and the electricity meter differences are more or less identical.

- Because the 2nd decimal place in fractions in the total electric energy figures are rounded off so that there is only one decimal place, the figures may not match perfectly.
- The actual electric energy calculations may not match perfectly due to differences in the times when visual confirmation was carried out.

⑦ Check that electric energy was able to be apportioned correctly for each unit price and put a check in the check column.

- Check that the amounts of operating electric energy and standby electric energy for the unit price set are not “0”.
  If the amounts are “0”, check that the settings are set correctly. For details, refer to section 9-6 (3) “If there is a unit with “0” amount of operating electric energy” or 9-6 (4) “If there is a unit with “0” amount of standby electric energy”. If the settings are incorrect, carry out the billing function trial run check again.
  Even if the amount is “0”, the unit may not be running or the pulse may not be input because the electric energy consumed is small. If the settings are correct, check the charge parameter.
- Check that total values for operating electric energy and standby electric energy are more or less the same as the metering device electric energy for the same system.

Note

- The amount of standby electric energy is apportioned by proportion of cooling capacity when the indoor unit is stopped.
- If [Not apportion] is set for the amount of standby electric energy, it will all be taken to be operating electric energy and the amount of standby electric energy will be “0”.

(4) Specified date calculation using the Charge Calculation Tool.

Check that the correct charge is output.
For information on the output method, refer to section 3-1 “Specified date calculation (LAN connection)” or 3-2 “Specified date calculation (USB)”.

(5) Checking the BACnet® function

When using BACnet® function, refer to the Instruction Book –BACnet® Apportioned Electricity Billing Function Trial Run–.

7-3-2. 2nd run check (at least 10 days after the 1st billing function trial run)

From [Option] > [Output - Check sheet for billing function trial run] on the Initial Setting Tool, output the “Items to be checked after 10 days” check sheet (Excel sheet).
If there are multiple AE-200 systems, output a check sheet for each system.

Just like the 1st trial run, carry out checks in the period from the 1st billing function trial run until work begins.

7-3-3. 3rd run check (at least 1 month after the 2nd billing function trial run)

From [Option] > [Output - Check sheet for billing function trial run] on the Initial Setting Tool, output the “Items to be checked on the next day of the closing date” check sheet (Excel sheet).
If there are multiple AE-200 systems, output a check sheet for each system.

Just like the 1st trial run, carry out checks in the period from the 2nd billing function trial run until the closing date.
If the calculation is carried out for the closing date, check that it can be printed or output as a CSV data.

7-4. Final checks

Check that you have all the check sheets and check again that there are no errors.

7-4-1. Final checks for the operation settings

Check again that there are no errors in the settings.

Checking the actual operation settings after the setting change

Item	Billing Function						Charges settings			
	Apportioning with metering device	Power source of A-control unit	Outdoor unit electric energy consumption	Outdoor unit standby electric energy	Indoor unit electric energy consumption	Indoor unit standby electric energy	Weekly charges	Seasonal charges	Special day charges	Closing date
Check	Use	Same	Capacity save amount	Apportion	Apportion	Apportion	Available	Available	Available	End of month
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

Checking the Charge Calculation Tool settings

Apportioning with metering	Calculation of standby electric	Currency unit	Display order of charge calculation	Merger of energy management blocks with same name	Decimal point character for CSV file	Separator character for CSV file	Automatic output settings			
							Print	CSV output	Closing date	IP address
Connected	Include in the charges	USD	Number	Merge	Dot	Comma	Monthly	Monthly	End of month	レ
⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑

	Unit price 1	Unit price 2	Unit price 3	Unit price 4	Unit price 5
kWh	0.2	0.25	0	0	0
MJ	0	0	0	0	0
m3	0	0	0	0	0
--	0	0	0	0	0

㉒

When switching the content in the above table to actual operation, check the settings on the Initial Setting Tool and Charge Calculation Tool.
Check that there are no errors in the settings for actual operation.

Content to be checked on the Initial Setting Tool
① - ⑥ : [Billing Function Settings] > [Billing Function Settings] screen
⑦ - ⑩ : [Billing Function Settings] > [Charges settings] screen

Content to be checked on the Charge Calculation Tool
⑪ - ㉒ : [Advanced Settings] screen

7-4-2. Final report

Check that there are no problems with the settings or with the billing function trial run checks, and then present all the check sheets to the customer.

8. Data verification

You can check whether there are mismatched data in the settings between the Initial Setting Tool and the centralized controller.
After sending the settings, using this function is recommended to check for proper settings in the centralized controller.

Procedures

1. Click [Data verification] > [Verify data] in the tool bar of the Initial Setting Tool.

Note

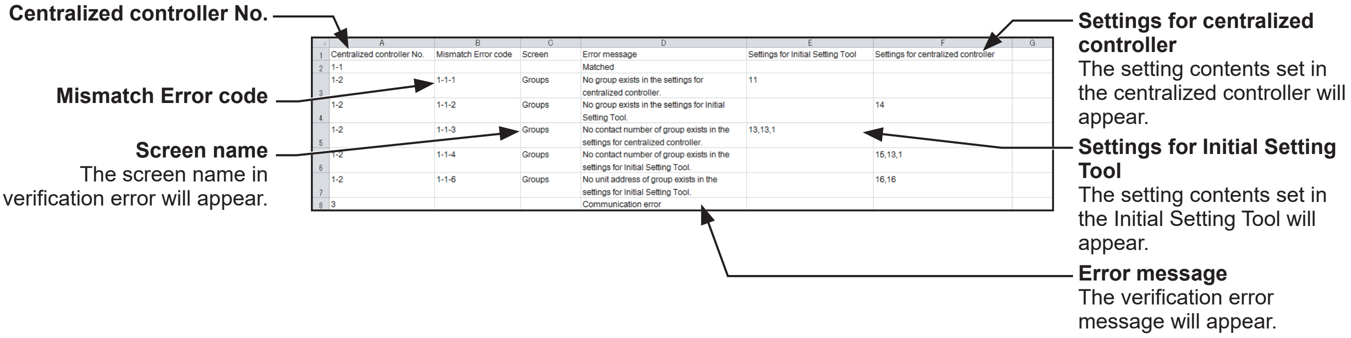
- LAN connection is required between the PC and the centralized controller.
- Microsoft® Excel® is required to be installed on the PC.

2. When the data verification is completed, the messages in the table below will be displayed.

Message	Definition	Remedy
The data verification process completed with no mismatched data.	The settings data between the Initial Setting Tool and the centralized controller match.	No action needs to be taken.
Microsoft Excel is not installed. The verification result file will not be created. Do you still want to perform data verification?	Because Microsoft® Excel® is not installed, the verification result file cannot be saved in Excel.	Install Microsoft® Excel®, and carry out data verification again.
Failed to output the data.	The verification result Excel file failed to be output.	Remove the check from Read-only check box of the output folder.
The unit configuration settings for the following centralized controller does not match with the actual unit configuration.	The centralized controller type or the number of connected expansion controllers set in the System Configuration screen of the Initial Setting Tool do not match with the actual configuration.	Change the settings in the System Configuration screen of the Initial Setting Tool so that the settings match with the actual configuration.
The version of this tool is not compatible with the version of the following centralized controller.	Because the version of the centralized controller is old, the Initial Setting Tool is not compatible with the centralized controller.	Update the centralized controller. Refer to the section on update in the Instruction Book –Initial Settings– for details.
Failed to acquire the data for the following centralized controller. Check for proper connection of the centralized controller.	A communication error is occurring on the centralized controller.	Check for proper LAN connection between the Initial Setting Tool and the centralized controller.
Mismatched data in [(Setting screen name)].	There are mismatched data in the settings between the Initial Setting Tool and the centralized controller.	Go to step 3 below to deal with the mismatched data, referring to the verification result Excel file.

3. When there are mismatched data in the settings, open the following verification result Excel file.

My Documents\IsTool\Verify\yyyyMMddHHmmss.xlsx
(yyyy: year, MM: month, dd: date, HH: hour, mm: minute, ss: second)



Centralized controller No.	Mismatch Error code	Screen	Error message	Settings for Initial Setting Tool	Settings for centralized controller
1-1			Matched		
1-2	1-1-1	Groups	No group exists in the settings for centralized controller.	11	
1-2	1-1-2	Groups	No group exists in the settings for Initial Setting Tool.		14
1-2	1-1-3	Groups	No contact number of group exists in the settings for centralized controller.	13,13,1	
1-2	1-1-4	Groups	No contact number of group exists in the settings for Initial Setting Tool.		15,13,1
1-2	1-1-6	Groups	No unit address of group exists in the settings for Initial Setting Tool.		16,16
3			Communication error		

Centralized controller No.

Mismatch Error code

Screen name
The screen name in verification error will appear.

Settings for centralized controller
The setting contents set in the centralized controller will appear.

Settings for Initial Setting Tool
The setting contents set in the Initial Setting Tool will appear.

Error message
The verification error message will appear.

4. Check the error code and the setting contents, and then on the Initial Setting Tool, modify the settings data that are mismatched between the Initial Setting Tool and the centralized controller.

Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
		Matched		No action needs to be taken for the given centralized controller.
		Communication error		Check for proper connection of LAN between the Initial Setting Tool and the centralized controller. And then, carry out data verification again.
1-1-1	Groups	No group exists in the settings for centralized controller.	Group No. Example: 1	The group configuration differs between the centralized controller and the Initial Setting Tool. Reconfigure the group settings on the Groups screen of the Initial Setting Tool according to the actual configuration.
1-1-2		No group exists in the settings for Initial Setting Tool.		
1-1-3		No contact number of group exists in the settings for centralized controller.	Group No., unit address, contact number Example: 1,2,3 (Contact number 3 of the DIDO controller address 2 is set for Group No. 1.)	
1-1-4		No contact number of group exists in the settings for Initial Setting Tool.		
1-1-5		No unit address of group exists in the settings for centralized controller.	Group No., unit address Example: 1,2 (Address 2 of the unit other than DIDO controller is set for Group No. 1.)	
1-1-6		No unit address of group exists in the settings for Initial Setting Tool.		
1-1-7		Mismatch - “Equipment type of group” settings	Group No., model name Example: 1,LOSSNAY (Group No. 1 is a LOSSNAY group.)	The equipment type set on the Initial Setting Tool is incorrect, or no units are connected to the centralized controller. If the equipment type setting is incorrect, reconfigure the group settings on the Groups screen of the Initial Setting Tool according to the actual configuration. If no units are connected to the centralized controller, properly connect units, and then carry out data verification again.

Error code	Screen name	Error message	Setting contents to be output in the cell * "Example:" shows the actual output example.	Remedy
1-1-8	Groups	Mismatch - "Group name" settings	Group No., group name Example: 1,Meeting room A (The name of Group No. 1 is "Meeting room A".)	The group configuration differs between the centralized controller and the Initial Setting Tool. Properly change the group settings on the Groups screen of the Initial Setting Tool.
1-1-9		Mismatch - "Group icon" settings	Group No., icon No. Example: 1,2 (The icon number of Group No. 1 is 2.)[*1]	
1-1-10		Mismatch - "Group Allow Operations" settings	Group No., operation setting Example: 1,No operations (Monitor only) (The operation setting for Group No. 1 is "No operations (Monitor only)".)	
1-1-11		Mismatch - "Group Monitor" settings	Group No., display setting Example: 1,Output status (The display setting for Group No. 1 is "Output status".)	
1-2-1	Refrigerant System	No outdoor unit setting exists in the settings for centralized controller.	Outdoor unit address Example: 51	The refrigerant system settings for billing function differ between the centralized controller and the Initial Setting Tool. Reconfigure the refrigerant system settings on the Refrigerant System screen of the Initial Setting Tool according to the actual configuration.
1-2-2		No outdoor unit setting exists in the settings for Initial Setting Tool.		
1-2-3		No unit setting (other than outdoor units) exists in the settings for centralized controller.	Outdoor unit/sub outdoor unit/ pump unit/indoor unit address Example: 51,1 (Indoor unit address 1 is connected to outdoor unit address 51.)	
1-2-4		No unit setting (other than outdoor units) exists in the settings for Initial Setting Tool.		
1-2-5		Outdoor unit settings do not match with the actual refrigerant system of centralized controller.	Outdoor unit address Example: 51	The refrigerant system set on the Initial Setting Tool is incorrect, or no units are connected to the centralized controller. If the refrigerant system setting is incorrect, reconfigure the refrigerant system settings on the Refrigerant System screen of the Initial Setting Tool according to the actual configuration. If no units are connected to the centralized controller, properly connect units, and then carry out data verification again.
1-2-6		Sub outdoor unit/indoor unit settings do not match with the actual refrigerant system of centralized controller.	Outdoor unit/sub outdoor unit/ pump unit/indoor unit address Example: 51,1 (Indoor unit address 1 is connected to outdoor unit address 51.)	
1-2-7		Unit settings (other than outdoor units) do not match with the actual refrigerant system of centralized controller.		
1-2-8				

Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
1-3-1	Interlocked LOSSNAY	No unit address of interlocked LOSSNAY exists in the settings for centralized controller.	Interlocked LOSSNAY unit address Example: 1	The interlocked LOSSNAY settings differ between the centralized controller and the Initial Setting Tool. Properly change the interlocked LOSSNAY settings on the Interlocked LOSSNAY screen of the Initial Setting Tool.
1-3-2		No unit address of interlocked LOSSNAY exists in the settings for Initial Setting Tool.		
1-3-3		No unit address of indoor unit with which the LOSSNAY unit is interlocked exists in the settings for centralized controller.	Interlocked LOSSNAY unit address, indoor unit address Example: 1,2 (LOSSNAY unit address 1 is interlocked with indoor unit address 2.)	
1-3-4		No unit address of indoor unit with which the LOSSNAY unit is interlocked exists in the settings for Initial Setting Tool.		
1-4-1	Blocks	No block exists in the settings for centralized controller.	Block No. Example: 1	The block configuration differs between the centralized controller and the Initial Setting Tool. Reconfigure the block settings on the Blocks screen of the Initial Setting Tool according to the actual configuration.
1-4-2		No block exists in the settings for Initial Setting Tool.		
1-4-3		No group number of block exists in the settings for centralized controller.	Block No., group No. Example: 1,2 (Group No.2 is set for block No. 1.)	
1-4-4		No group number of block exists in the settings for Initial Setting Tool.		
1-4-5		Mismatch - “Block name” settings	Block No., block name Example: 1,Meeting room A (The name of block No. 1 is “Meeting room A”.)	

Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
1-5-1	Energy Management Block	No energy management block exists in the settings for centralized controller.	Energy management block No. Example: 1	The energy management block configuration differs between the centralized controller and the Initial Setting Tool. Reconfigure the energy management block settings on the Energy Management Block screen of the Initial Setting Tool according to the actual configuration.
1-5-2		No energy management block exists in the settings for Initial Setting Tool.		
1-5-3		No block of energy management block exists in the settings for centralized controller.	Energy management block No., expansion controller No., block No. Example: 1,0,1 (AE-200/AE-50/EW-50’s block No. 1 is set for energy management block No. 1.) Example: 2,1,3 (Expansion controller No. 1’s block No. 3 is set for energy management block No. 2.)	
1-5-4		No block of energy management block exists in the settings for Initial Setting Tool.		
1-5-5		No LOSSNAY with heater/ humidifier of energy management block exists in the settings for centralized controller.	Energy management block No., expansion controller No., address of LOSSNAY with heater/ humidifier Example: 1,0,2 (AE-200/AE-50/EW-50’s LOSSNAY with heater/ humidifier address 2 is set for energy management block No. 1.) Example: 2,1,3 (Expansion controller No. 1’s LOSSNAY with heater/ humidifier address 3 is set for energy management block No. 2.)	
1-5-6		No LOSSNAY with heater/ humidifier of energy management block exists in the settings for Initial Setting Tool.		
1-5-7		Mismatch - “Energy management block name” settings	Energy management block No., energy management block name Example: 1,Tenant A (The name of energy management block No. 1 is “Tenant A”.)	

Error code	Screen name	Error message	Setting contents to be output in the cell * "Example:" shows the actual output example.	Remedy
1-6-1	PI Controller	No unit address of PI controller exists in the settings for centralized controller.	PI controller unit address Example: 50 (The PI controller address is 50.) Example: Built-in PI Controller (Built-in Pulse Input (PI) function)	The PI controller configuration differs between the centralized controller and the Initial Setting Tool. Reconfigure the PI controller settings on the PI Controller screen of the Initial Setting Tool according to the actual configuration and the actual metering device.
1-6-2		No unit address of PI controller exists in the settings for Initial Setting Tool.		
1-6-3		Mismatch - "Pulse unit of metering device of PI controller" settings	PI controller unit address, metering device No., "Pulse unit" Example: 50,1,"0.1" (The pulse unit for metering device No. 1 of PI controller address 50 is 0.1.)	
1-6-4		Mismatch - "Unit symbol of metering device of PI controller" settings	PI controller unit address, metering device No., unit symbol Example: 50,1,kWh (The unit for metering device No. 1 of PI controller address 50 is kWh.)	
1-6-5		Mismatch - "Name of metering device of PI controller" settings	PI controller unit address, metering device No., metering device name Example: 50,1,Outdoor unit electricity meter 1 (The name of the metering device No. 1 of PI controller address 50 is "Outdoor unit electricity meter 1".)	

Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
1-7-1	AI Controller	No unit address of AI controller exists in the settings for centralized controller.	AI controller unit address Example: 50	The AI controller configuration differs between the centralized controller and the Initial Setting Tool. Reconfigure the AI controller settings on the AI Controller screen of the Initial Setting Tool according to the actual configuration and the actual metering device.
1-7-2		No unit address of AI controller exists in the settings for Initial Setting Tool.		
1-7-3		Mismatch - “Usage type of AI controller sensor” settings	AI controller unit address, sensor No., sensor type Example: 50,1,Temperature sensor (The sensor No. 1 of AI controller address 50 is a temperature sensor.)	
1-7-4		Mismatch - “Measurement range of AI controller sensor” settings	AI controller unit address, sensor No., “measurement range lower limit”, measurement range upper limit” Example: 50,1,“0”,“100” (The measurement range for the sensor No. 1 of AI controller address 50 is from 0 to 100.)	
1-7-5		Mismatch - “Offset value of AI controller sensor” settings	AI controller unit address, sensor No., “sensor offset value” Example: 50,1,“-0.5” (The sensor offset value for the sensor No. 1 of AI controller address 50 is -0.5.)	
1-7-6		Mismatch - “Thresholds for the upper and lower limit temperatures for e-mail alert function of AI controller sensor” settings	AI controller unit address, sensor No., “Upper ON-threshold”, “Upper OFF-threshold”, “Lower ON-threshold”, “Lower OFF-threshold” Example: 50,1,“40”,“35”,“5”,“10” (The sensor No. 1 of AI controller address 50 issues an alert when the temperature value becomes 40 or higher or 5 or lower, and cancels the alert when the temperature value becomes within the range of 10 and 35.	
1-7-7		Mismatch - “AI controller sensor name” settings	AI controller unit address, sensor No., sensor name Example: 50,1,Outdoor thermometer 1 (The name of the sensor No. 1 of AI controller address 50 is “Outdoor thermometer 1”.)	

Error code	Screen name	Error message	Setting contents to be output in the cell * "Example:" shows the actual output example.	Remedy
2-1-1	Billing Function	Mismatch - "Apportioning with metering device" settings	Setting contents Example: Use	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.
2-1-2		Mismatch - "Power source of A-control unit" settings	Setting contents Example: Same power source (O/U - I/U)	
2-1-3		Mismatch - "Apportioning mode for outdoor unit electric energy consumption" settings	Setting contents Example: Capacity save amount	
2-1-4		Mismatch - "Apportioning mode for outdoor unit standby electric energy" settings	Setting contents Example: Apportion	
2-1-5		Mismatch - "Apportioning mode for indoor unit electric energy consumption" settings	Setting contents Example: Apportion	
2-1-6		Mismatch - "Apportioning mode for indoor unit standby electric energy" settings	Setting contents Example: Apportion	
2-1-7		Mismatch - "Warning - possibility of damaged metering device"	Setting contents Example: Warn	
2-1-8		Mismatch - Number of days of "Warning - possibility of damaged metering device"	Setting contents Example: 3	

Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
2-2-1	Outdoor Unit	No outdoor unit setting exists in the settings for centralized controller.	Outdoor unit address Example: 51	The refrigerant system settings for billing function differ between the centralized controller and the Initial Setting Tool. Reconfigure the refrigerant system settings on the Refrigerant System screen of the Initial Setting Tool according to the actual configuration, and then reconfigure the outdoor unit settings on the Outdoor Unit screen.
2-2-2		No outdoor unit setting exists in the settings for Initial Setting Tool.		
2-2-3		Mismatch - “Outdoor unit standby electric power” settings	Outdoor unit address, “outdoor unit standby electric power” Example: 51,”0.07” (The standby electric power for outdoor unit address 51 is 0.07.”)	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.
2-2-4		No pump unit setting exists in the settings for centralized controller.	Pump unit address Example: 52	The refrigerant system settings for billing function differ between the centralized controller and the Initial Setting Tool. Reconfigure the refrigerant system settings on the Refrigerant System screen of the Initial Setting Tool according to the actual configuration, and then reconfigure the outdoor unit settings on the Pump Unit screen.
2-2-5		No pump unit setting exists in the settings for Initial Setting Tool.		
2-2-6		Mismatch - “Pump unit standby electric power” settings	Pump unit address, “pump unit standby electric power” Example: 52,”0.007” (The standby electric power for pump unit address 52 is 0.007.”)	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.

Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
2-3-1	Indoor Unit	No indoor unit setting exists in the settings for centralized controller.	Indoor unit address Example: 1	The group settings or the refrigerant system settings for billing function differ between the centralized controller and the Initial Setting Tool. Reconfigure the settings on the Groups or the Refrigerant System screen of the Initial Setting Tool according to the actual configuration, and then reconfigure the indoor unit settings on the Indoor Unit screen.
2-3-2		No indoor unit setting exists in the settings for Initial Setting Tool.		
2-3-3		Mismatch - “Indoor unit cooling capacity” settings	Indoor unit address, “cooling capacity” Example: 1,“2.2” (The cooling capacity of indoor unit address 1 is 2.2 kW.)	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.
2-3-4		Mismatch - “Indoor unit fan power consumption” settings	Indoor unit address, “fan power consumption” Example: 1,“0.04” (The fan power consumption of indoor unit address 1 is 0.04 kW.)	
2-3-5		Mismatch - “Indoor unit standby electric power” settings	Indoor unit address, “standby electric power” Example: 1,“0.005” (The standby electric power of indoor unit address 1 is 0.005 kW.)	

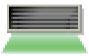
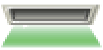
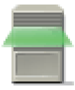
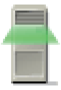
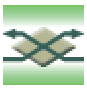
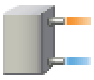
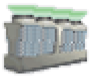
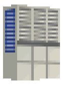
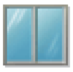
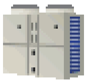
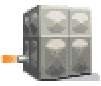
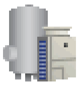
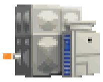
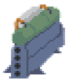
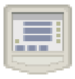
Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
2-4-1	Measurement	No metering device setting for outdoor unit exists in the settings for centralized controller.	Expansion controller No., PI controller address, metering device No. Example: 1,50,4 (Metering device No. 4 of PI controller address 50 of expansion controller No. 1 is set as outdoor unit metering device.)	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.
2-4-2		No metering device setting for outdoor unit exists in the settings for Initial Setting Tool.		
2-4-3		No address of the connected unit of metering device for outdoor unit exists in the settings for centralized controller.	Expansion controller No. to which PI controller is connected, PI controller address, metering device No., expansion controller No. to which outdoor unit is connected, outdoor unit address Example: 1,50,4,2,51 (Outdoor unit electric energy is measured by a metering device. The No. of the metering device of PI controller address 50 of expansion controller No. 1 is 4. The address of the outdoor unit of expansion controller No. 2 is 51.)	
2-4-4		No address of the connected unit of metering device for outdoor unit exists in the settings for Initial Setting Tool.		
2-4-5		No metering device setting for indoor unit exists in the settings for centralized controller.	Expansion controller No., PI controller address, metering device No. Example: 1,50,4 (Metering device No. 4 of PI controller address 50 of expansion controller No. 1 is set as indoor unit metering device.)	
2-4-6		No metering device setting for indoor unit exists in the settings for Initial Setting Tool.		
2-4-7		No address of the connected unit of metering device for indoor unit exists in the settings for centralized controller.	Expansion controller No. to which PI controller is connected, PI controller address, metering device No., expansion controller No. to which indoor unit is connected, indoor unit address Example: 1,50,4,2,3 (Indoor unit electric energy is measured by a metering device. The No. of the metering device of PI controller address 50 of expansion controller No. 1 is 4. The address of the indoor unit of expansion controller No. 2 is 3.)	
2-4-8		No address of the connected unit of metering device for indoor unit exists in the settings for Initial Setting Tool.		

Error code	Screen name	Error message	Setting contents to be output in the cell * “Example:” shows the actual output example.	Remedy
2-4-9	Measurement	No metering device setting for pump unit exists in the settings for centralized controller.	Expansion controller No., PI controller address, metering device No. Example: 1,50,4 (Metering device No. 4 of PI controller address 50 of expansion controller No. 1 is set as pump unit metering device.)	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.
2-4-10		No metering device setting for pump unit exists in the settings for Initial Setting Tool.		
2-4-11		No address of the connected unit of metering device for pump unit exists in the settings for centralized controller.	Expansion controller No. to which PI controller is connected, PI controller address, metering device No., expansion controller No. to which pump unit is connected, pump unit address Example: 1,50,4,2,52 (Pump unit electric energy is measured by a metering device. The No. of the metering device of PI controller address 50 of expansion controller No. 1 is 4. The address of the pump unit of expansion controller No. 2 is 52.)	
2-4-12		No address of the connected unit of metering device for pump unit exists in the settings for Initial Setting Tool.		

Error code	Screen name	Error message	Setting contents to be output in the cell * "Example:" shows the actual output example.	Remedy
2-5-1	Charges	Mismatch - "Closing date" settings	Setting contents Example: End of month Example: Day 15 of each month	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller, or TG-2000A is used together. If TG-2000A is used together, stop the billing function of either TG-2000A or AE-200. If TG-2000A is not used together, check for proper settings on the Initial Setting Tool, and then send the settings.
2-5-2		Mismatch - "Start time for billing time period" settings	* This verification error may occur when AE-200 billing function and TG-2000A billing function are used together.	
2-5-3		Mismatch - "Seasonal charges - time period" settings	Setting contents (start month, start date, end month, end date) Example: 6,1,10,30 (Seasonal charges time period is from June 1 to October 30.) Example: Not Available	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.
2-5-4		No time period for "Weekly charges - time period" setting exists in the settings for centralized controller.	Setting contents (Normal charges time period (1)/Seasonal charges time period (2), day of the week, time (hour) when the time period changes, time (minute) when the time period changes) Example: Normal charges, Mon,8,0 (For normal charges time period, the time period changes at 8:00 on Monday.) Example: Seasonal charges,Tue, 17,0 (For seasonal charges time period, the time period changes at 17:00 on Tuesday.)	
2-5-5		No time period for "Weekly charges - time period" setting exists in the settings for Initial Setting Tool.		
2-5-6		Mismatch - Unit price settings for "Weekly charges - time period"	Setting contents (Normal charges time period (1)/Seasonal charges time period (2), day of the week, time (hour) when the time period changes, time (minute) when the time period changes), unit price Example: Normal charges,Mon,8, 0,Unit price 2 (For normal charges time period, the time period changes to "Unit price 2" at 8:00 on Monday.) Example: Seasonal charges,Tue, 17,0,Unit price 3 (For seasonal charges time period, the time period changes to "Unit price 3" at 17:00 on Tuesday.)	

Error code	Screen name	Error message	Setting contents to be output in the cell * "Example:" shows the actual output example.	Remedy
2-5-7	Charges	No time period for "Special day charges - time period" setting exists in the settings for centralized controller.	Setting contents (Pattern, time (hour) when the time period changes, time (minute) when the time period changes) Example: Pattern A,8,0 (For pattern A, the time period changes at 8:00.)	The setting changes made on the Initial Setting Tool have not been sent to the centralized controller. Check for proper settings on the Initial Setting Tool, and then send the settings.
2-5-8		No time period for "Special day charges - time period" setting exists in the settings for Initial Setting Tool.		
2-5-9		Mismatch - Pattern setting for "Special day charges - time period"	Setting contents (Pattern, time (hour) when the time period changes, time (minute) when the time period changes), unit price Example: Pattern A,8,0,Unit price 1 (For pattern A, the time period changes to "Unit price 1" at 8:00.)	
2-5-10		No special day exists in the settings for centralized controller.	Setting contents (Year, month, and date of the special day) Example: 2016,4,1 (April 1 in 2016 is a special day.)	
2-5-11		No special day exists in the settings for Initial Setting Tool.		
2-5-12		Mismatch - Pattern setting for "Special day"	Setting contents (Year, month, and date of the special day, pattern) Example: 2016,4,1,Pattern A (April 1 in 2016 is pattern A of a special day.)	

*1 Icon number list

Number	1	2	3	4	5	6	7
Icon							
Number	8	9	10	11	41	42	43
Icon							
Number	44	46	51	52	53	54	55
Icon							
Number	56	57	58	59	70	71	72
Icon							
Number	73	74	75	80	81	82	83
Icon							
Number	84	0					
Icon		Auto *					

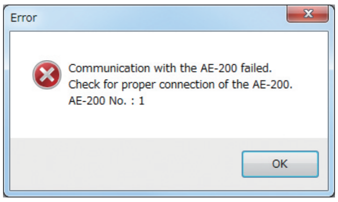
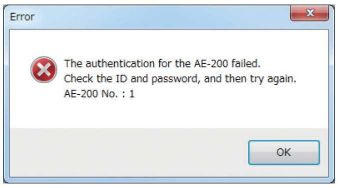
* Icons are displayed according to the unit group type.
If the icon is not changed on the group settings screen, the number will be 0.

5. Send the changes made from the Initial Setting Tool to centralized controllers.
   Refer to section 6-4-3 “List of tool bar operations” for details.

9. Troubleshooting

9-1. Troubleshooting

See the table below and troubleshoot accordingly.

No.	Problem		Possible cause	Solution
(1)	Charge calculation results are not displayed on or printed out from the Charge Calculation Tool.	When the specified date calculation is performed, a warning message (e.g., “Printing failed.”) appears.	• The printer is offline. (Or the cable is not connected.)	• Remove the cause of this problem, and print the calculation results from the Charge Calculation Tool again. Refer to section 3 “Basic operations” for details.
(2)			• The printer connection settings have not been made.	
(3)		 Error Communication with the AE-200 failed. Check for proper connection of the AE-200. AE-200 No. : 1 	• LAN between the AE-200 and the PC is not properly connected. • The IP address setting of the AE-200 is wrong.	• Check if the IP address setting of the AE-200 is correct, and the ID or password for the AE-200 is correct.
(4)		 Error The authentication for the AE-200 failed. Check the ID and password, and then try again. AE-200 No. : 1 	• The ID or password for the AE-200 is wrong.	
(5)		Data is not printed out automatically, or CSV file is not output automatically.	• The PC is switched off or the printer is offline. (Or the cable is not connected.)	• As a temporary procedure, carry out a specified date calculation. • Remove the cause of this problem for the next automatic output. Refer to section 3-3 “Closing date calculation (automatic output)” for details.
(6)			• The printer connection settings have not been made.	
(7)			• Communication error with AE-200 is occurring.	
(8)			• “Automatic output” settings have not been made on the Charge Calculation Tool.	

No.	Problem		Possible cause	Solution
(9)	Errors are displayed on the [Malfunction] screen under the [Status List] menu. Or, Error log is displayed on the [Unit Error] screen under the [Log] menu.	“Version combination error (0092)”	The combination of the versions of the AE-200/AE-50/EW-50 is not appropriate for an apportioned electricity billing function.	• Check the versions of the AE-200 and AE-50/EW-50. Refer to section 6 “Initial settings” for details.
(10)		“System configuration change warning (0093)”	Apportioned data have not been restored after the AE-200/AE-50/EW-50 was replaced (or system configuration was changed, or system was set based on other system).	• Restore the apportioned data. Refer to section 9-3 “Replacing the AE-200” or 9-4 “Replacing the AE-50/EW-50” for details.
(11)		“Charge license not registered (0094)”	The license has not properly been registered.	Check if the license has properly been registered to each AE-200 and AE-50/EW-50.
(12)		“Warning - possibility of damaged metering device (0095)”	The measurement value of the metering device (which should count up the operation amount of air-conditioning units) does not count up for 3 to 7 days*1. *1 The number of days set in the “Warning - possibility of damaged metering device” setting	• Check if the measurement value is properly counted up on the [Measurement] screen under the [Monitor/ Operation] menu. • Check for proper connection between the electricity meter and the PI controller (when a PI controller is used). • Check for proper connection between the electricity meter and the built-in Pulse Input (PI) on the AE-50/EW-50 (when a built-in Pulse Input (PI) on the AE-50/EW-50 is used). • Check if no communication error between the PI controller and the AE-50/EW-50 is occurring. • The carried-over data may not have been cleared after the time period of the unit price was deleted. Refer to section 9-6 (2) “Clearing carried-over data” for details. • No action needs to be taken if the air conditioning units are not operated for a long time due to a consecutive holidays etc.
(13)		“Apportioned calculation data collection error (0097)”	Communication error (between the AE-200 and AE-50/EW-50) is occurring.	Check for proper LAN connection between the AE-50 and EW-50.

No.	Problem		Possible cause	Solution
(14)	An error occurs when [Data acquisition] is touched on the [Refrigerant System] screen on the Initial Setting Tool.	Error message: [Data acquisition succeeded. The inappropriate connected unit addresses will be deleted. Continue?] (Address: ***.***.***.***)	The settings on the Initial Setting Tool are incorrect.	Check for proper following settings again on the Initial Setting Tool, and correct the settings. • Group settings (address and unit type) • PI controller address • AI controller address Then, touch [Data acquisition] on the [Refrigerant System] screen again.
			The refrigerant system connection of the actual unit is incorrect.	Check the refrigerant system connection on the [System View] screen under the [Initial Settings] menu on the AE-200's LCD, and correct the address setting of the actual unit. Then, touch [Data acquisition] on the [Refrigerant System] screen again.
			A communication error is occurring on the unit.	Eliminate the communication error of the actual unit. Then, touch [Data acquisition] on the [Refrigerant System] screen again.
(15)	An electricity meter does not count up.		The settings on the Initial Setting Tool are incorrect.	The pulse value setting may be "0 kWh/pulse". Set the correct pulse value on the [PI Controller] screen.
			The DIP switch settings for PI controller are incorrect.	The use/non-use setting for electricity meter may be incorrect. Set the DIP switch SW01 on the PI controller to ON.
(16)	Electric energy consumption of HVRF system is far greater than that of VRF when their operation hours are nearly equal.		1) Outdoor unit electric energy consumptions are apportioned by capacity save amount, and electric energy consumptions of VRF and HVRF systems are measured with a single electricity meter. 2) Indoor units with and without a flow-control valve coexist in HVRF systems.	1) Connect separate electricity meters to VRF and HVRF. 2) Set the apportioning mode to a value other than [Capacity save amount].

No.	Problem	Possible cause	Solution
(17)	E-mail cannot be received.	1) Any of the basic settings, server settings, or e-mail address settings are incorrect. 2) Network environment is incorrect. [PC] [E-mail server (of the sender)] [Public network] 3) E-mail server of the receiver is incorrect. 4) Filter processing for junk e-mail is being executed on the e-mail server or the client software of the receiver.	Check 1) to 4) below, and check whether the e-mail can be received properly. 1) Correct the settings. 2) Check the e-mail sending settings on your PC, and consult the administrator of the e-mail server or the system as necessary. 3) Consult the administrator of the e-mail server of the receiver. 4) In addition to 3), check the settings of the client software.
(18)	Some of the divided e-mails are not received.	1) The PC is not turned on when the apportioned power data is acquired (at 5:00 a.m.) or when the e-mail is sent (from 6:00 a.m. until all the divided data is sent at an interval of 20 minutes). 2) Possible cause described in No. 17 occurred temporarily.	1) Check the status of the PC, and take an appropriate action.
(19)	The message “Communication error (between the AE-200 and AE-50/EW-50)” appears in the network settings on the LCD.	1) The connection target IP addresses and the AE-50/EW-50’s IP addresses do not match. 2) The software versions of the AE-200 and the AE-50/EW-50 do not match.	1) Make sure that the IP addresses of the AE-200/AE-50/EW-50 and the connection target IP addresses match. 2) Upload the software, referring to the installation manuals that came with the AE-200/AE-50 or EW-50.
(20)	The charge calculation results show that the total output values of the energy management block do not match the total values of the electricity meter.	If the difference is small: 1) Normal If the difference is large: 2) Contact the dealer or distributor.	The values for electric energy are rounded off to two decimal places, and the digits after the decimal point are rounded down from the values for the charge. This may result in a mismatch between the total values of the block and electricity meter.
(21)	The charge calculation results show that the values of the electricity meter and the actual electricity meter do not match.	If the difference is small: 1) Normal If the difference is large: 2) Setting error of pulse unit	1) An error occurs because the value is rounded off to two decimal places. A difference from the actual electricity meter also occurs due to the pulse input timing. 2) Check that the pulse unit [kWh/pulse] settings on the electricity meter are correct. If there is a setting error, correct it.

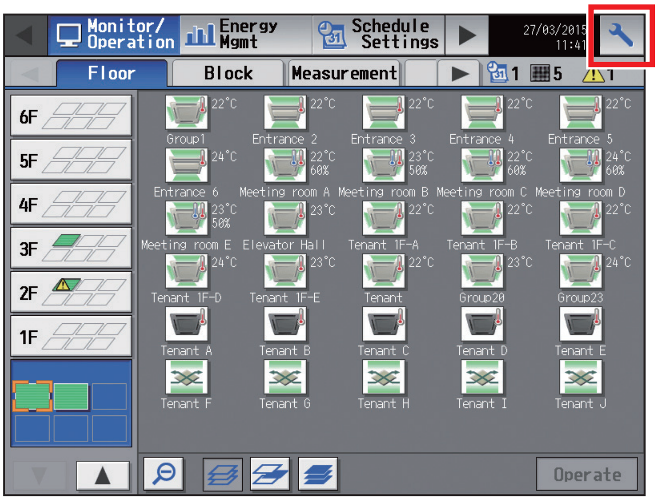
No.	Problem	Possible cause	Solution
(22)	The display of charge calculation results for some AE-200 is blank.	1) The date and time on AE-200 are incorrect.	Check the cause and resolve the problem. 1) Configure the time settings. Charges cannot be apportioned correctly if the date and time are incorrect. * When changing or adding AE-200, be sure to configure the time settings before use.
(23)	Misalignment of printed characters or garbled characters occur.	1) Printer driver is incompatible.	1) Check the printer driver on the OS. Also, check whether printing can be performed with other applications.
(24)	Charge calculation results are wrong after making a time change in a period that spans two days.	1) The time was changed to one that spans two days.	* If the apportioned electricity billing function is used, keep the changes of time to a minimum. In particular, do not make time changes in a period that spans two days.
(25)	The Automatic Output setting of the Charge Calculation Tool is set to [Yes], but the automatic output is not being performed.	1) The following items were enabled in the PC settings (power option): • System standby • System in hibernation 2) Charge Calculation Tool was activated. 3) A LAN communication error occurred between the system and AE-200.	1) Change the settings for “System standby,” “System in hibernation,” and “Turn off hard disk power” to [No] to enable continuous operation. 2) Close the Charge Calculation Tool before the automatic output time. 3) Check the LAN connection between PC and AE-200 and reconnect them. * Manually calculate the charges for the time periods for which automatic output was not performed.
(26)	The time period output by the automatic output of the Charge Calculation Tool is wrong.	1) The time on PC is incorrect.	1) Correct the time on PC. * Manually calculate the charges for the time periods for which automatic output was not performed.
(27)	The apportioned charge for a certain day is “0” due to a total power failure.	The power failure lasted all day.	No action is required since the charge is carried over to the next day.
(28)	Data is defined as Status-2 (with carry-over) even though electric energy is apportioned daily in the daily charge calculation results.	Normal	* With AE-200, the electricity is apportioned every 30 minutes. This causes a carry-over to easily occur during the time period in which an air conditioning unit is stopped, such as nighttime. This is not a problem as the charge will be apportioned at the next apportionment time.

No.	Problem	Possible cause	Solution
(29)	Electricity apportionment is not calculated correctly.	1) This symptom occurs when all of the conditions from (a) to (c) listed below are met. (a) AT-50A(B) and TC-24A(B) are used as a sub controller. (b) The time on AT-50A(B) and TC-24A(B) set based on the time of the host controller are behind by more than two minutes. (c) The time alarm settings on AT-50A(B) and TC-24A(B) are set to [Use].	1) Change the time alarm settings on AT-50A(B) and TC-24A(B) to [Do not use].

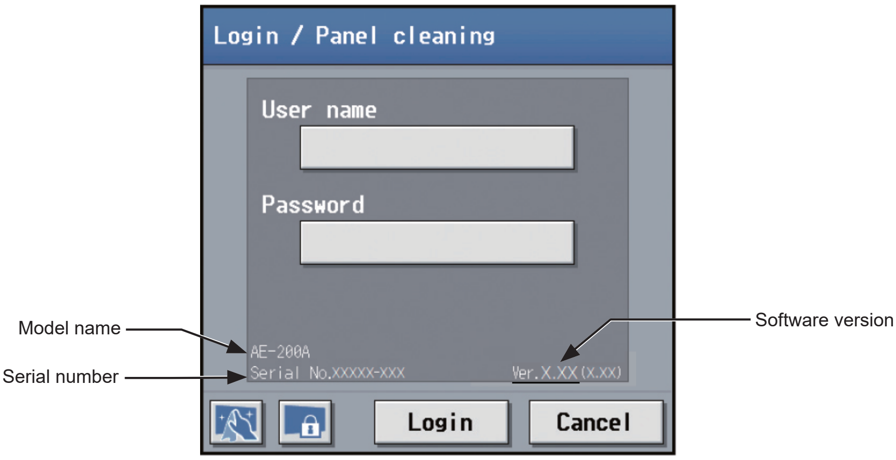
9-2. Logging in to the Maintenance screen

Procedures

1. Touch [🔧] at the top right of the AE-200’s LCD to display the login window.


Monitor/ Operation
Energy Mgmt
Schedule Settings
27/03/2015 11:41
Floor
Block
Measurement
1
5
1
6F
5F
4F
3F
2F
1F
Group1
Entrance 2
Entrance 3
Entrance 4
Entrance 5
Entrance 6
Meeting room A
Meeting room B
Meeting room C
Meeting room D
Meeting room E
Elevator Hall
Tenant 1F-A
Tenant 1F-B
Tenant 1F-C
Tenant 1F-D
Tenant 1F-E
Tenant
Group20
Group23
Tenant A
Tenant B
Tenant C
Tenant D
Tenant E
Tenant F
Tenant G
Tenant H
Tenant I
Tenant J
Operate

2. Enter the user name and the password on the keyboard screen, and touch [Login].
   [Initial Settings] menu screen will appear.
   The model name and the serial number will appear in the lower left of the window, and the software version information will appear in the lower right of the window.


Login / Panel cleaning
User name
Password
Model name
Serial number
Software version
AE-200A
Serial No.XXXXX-XXX
Ver.X.XX (X.XX)
Login
Cancel

Accessible users and available functions are shown in the table below.

User	Available functions
Maintenance user	All functions
Building manager	The items to which access rights have been given on the [User Info] screen are available.

Note: A maintenance user can specify the functions to be made available for building managers. Refer to the Instruction Book (Initial Settings) for details.

Default maintenance/building manager user names and the passwords are shown in the tables below.

Note: It is recommended to change the default user name and password so that the users other than the maintenance users and building managers will not be able to change the settings. Refer to the Instruction Book (Initial Settings) for how to change the default user name and password.

Note: If the default user name and password of maintenance user and building manager were changed, the changed user name and the password will remain active after the controller is updated to a newer version.
Also, if you import the backup data of the changed settings to another AE-200/AE-50, the changed user name and the password will remain active.

AE-200E/AE-50E (All versions)

User	Default user name	Default password
Maintenance user	initial	init
Building manager	administrator	admin

AE-200A/AE-50A (Ver. 7.97 and earlier)

User	Default user name	Default password
Maintenance user	initial	init
Building manager	administrator	admin

AE-200A/AE-50A (Ver. 7.98 and later)

User	Default user name	Default password*1*2	Example default password (Serial number: 19672-123*3)
Maintenance user	initial	in “Serial number”	in19672123
Building manager	administrator	ad “Serial number”	ad19672123

*1 Default password for AE-200A/AE-50A updated to Ver. 7.98 or later from Ver. 7.97 or earlier
The default password varies with the version immediately before the update.

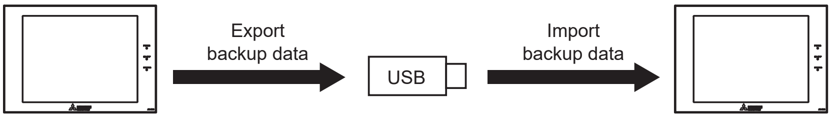
Default password for AE-200A/AE-50A when updated from a version earlier than Ver. 7.98

Version before the update	User	Default user name	Default password after the system has been updated to Ver. 7.98 or later
Ver. 7.10–7.12	Maintenance user	initial	in “Serial number”
	Building manager	administrator	ad “Serial number”
Ver. 7.23–7.97	Maintenance user	initial	init
	Building manager	administrator	admin

*3 Default password for AE-200A/AE-50A to which the backup data from Ver. 7.98 or later was imported
If the settings data are backed up from the AE-200A/AE-50A that was logged in with the default password and are imported to the AE-200A/AE-50A Ver. 7.98 or later, the new password will be the serial number of the AE-200A/AE-50A to which the data was imported.

AE-200A/AE-50A
Software version: 7.98
Serial number: 31C71-101
Password of building manager: ad31C71101

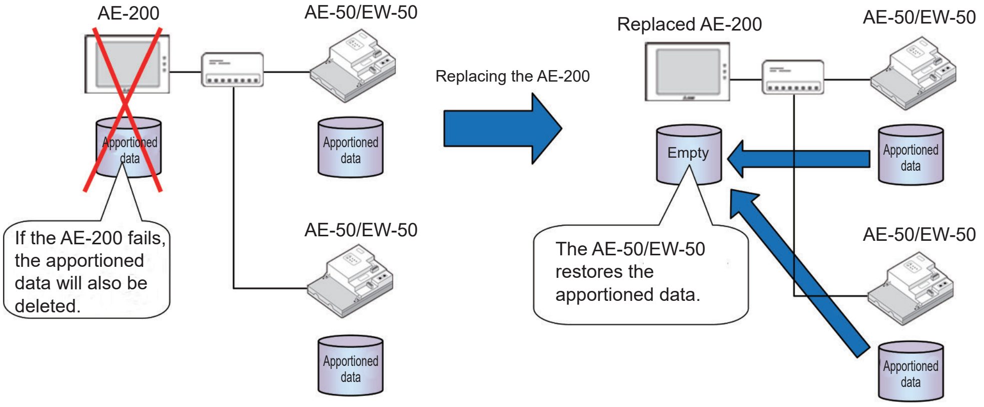
AE-200A/AE-50A
Software version: 7.98
Serial number: 19272-124
Password of building manager: ad19272124



*4 Serial number can be found on the login window of the LCD.

9-3. Replacing the AE-200

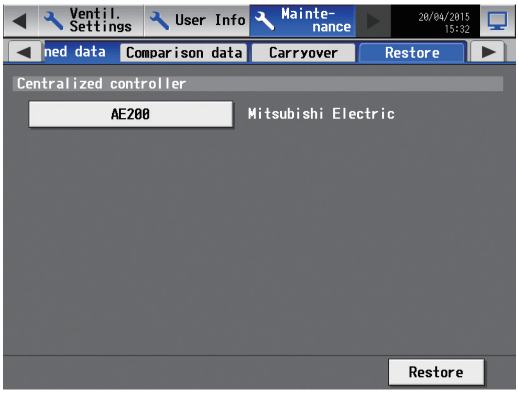
When replacing the AE-200, the stored apportioned data needs to be restored.
This section describes how to restore the apportioned data (backup) from the AE-50/EW-50 onto the AE-200.


AE-200
AE-50/EW-50
Apportioned data
Apportioned data
If the AE-200 fails, the apportioned data will also be deleted.
AE-50/EW-50
Apportioned data
Replacing the AE-200
Replaced AE-200
AE-50/EW-50
Empty
Apportioned data
The AE-50/EW-50 restores the apportioned data.
AE-50/EW-50
Apportioned data

1. Make the network settings for the AE-200.
2. Make the normal initial settings on the AE-200.
3. Carry out the data restore procedure.
   On the AE-200’s LCD, touch [Maintenance] > [Apportioned data] > [Restore], select [AE200] as the “Centralized controller” and then touch [Restore].

Note

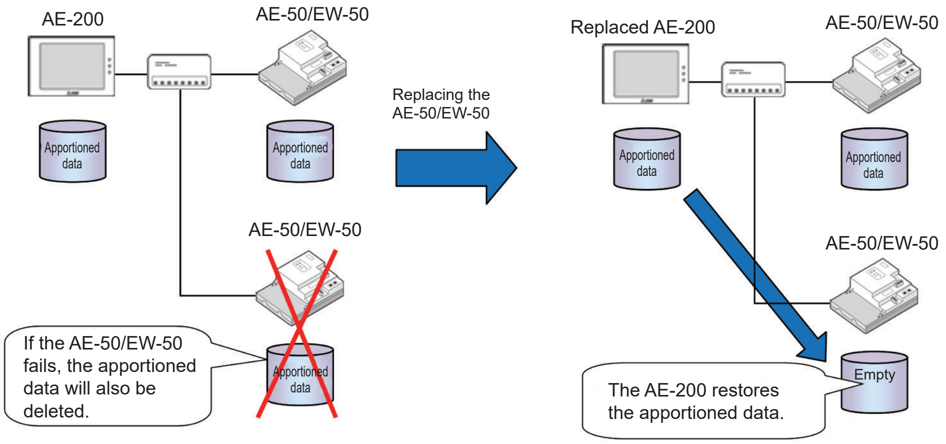
- Be sure to select [AE200].
  If you inadvertently select AE-50/EW-50, the apportioned calculation results data will all be deleted.


Ventil. Settings
User Info
Mainte-nance
20/04/2015 15:32
ned data
Comparison data
Carryover
Restore
Restore

Centralized controller
AE200 Mitsubishi Electric

9-4. Replacing the AE-50/EW-50

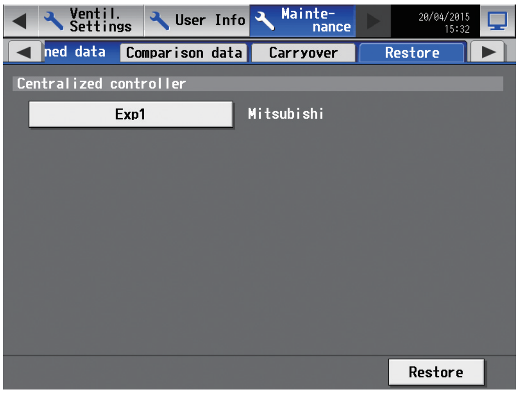
When replacing the AE-50/EW-50, the stored apportioned data needs to be restored.
This section describes how to restore the AE-200 apportioned data (backup) onto the AE-50/EW-50.


AE-200
AE-50/EW-50
Apportioned data
Apportioned data
AE-50/EW-50
Apportioned data
If the AE-50/EW-50 fails, the apportioned data will also be deleted.
Replacing the AE-50/EW-50
Replaced AE-200
AE-50/EW-50
Apportioned data
Apportioned data
AE-50/EW-50
Empty
The AE-200 restores the apportioned data.

1. Make the network settings for the AE-50/EW-50.
2. Make the normal initial settings on the AE-200.
3. Carry out the data restore procedure.
   Touch [Maintenance] > [Apportioned data] > [Restore], select the replaced AE-50 or EW-50 as the "Centralized controller" and then touch [Restore].
   (With each touch, the display changes in the following sequence: [AE200]→[Exp1]→[Exp2]→[Exp3]→[Exp4].)

Note

- Be sure to select AE-50/EW-50.
  If you inadvertently select [AE200], the apportioned calculation results data will all be deleted.

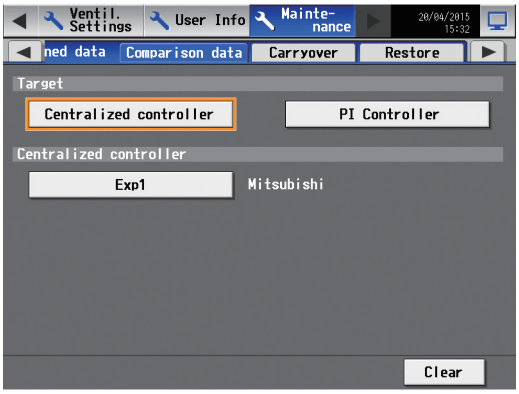

Ventil. Settings
User Info
Mainte-nance
20/04/2015 15:32
ned data
Comparison data
Carryover
Restore
Restore

Centralized controller
Exp1 Mitsubishi

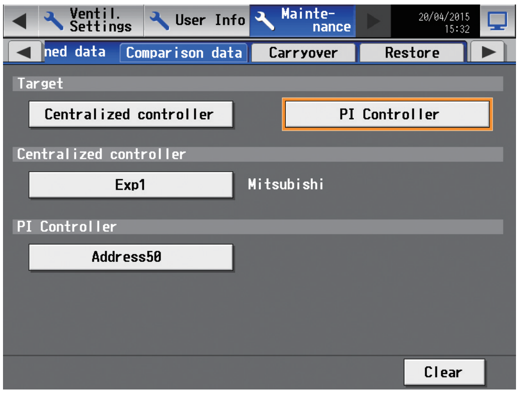
4. Clear the comparison data of AE-50/EW-50.

Comparison data
This is the data used to compare the latest values on the AE-50/EW-50 and PI controller with the values on the AE-200 when the previous apportionment was calculated, and calculate the increment.

Clear the comparison data on the replaced AE-50 or EW-50 connected to the AE-200.
Select [Centralized controller] as the “Target”.
Select the replaced AE-50 or EW-50 as the “Centralized controller” and then touch [Clear].
(With each touch, the display changes in the following sequence: [Exp1]→[Exp2]→[Exp3]→[Exp4].)


Ventil. Settings
User Info
Mainte-nance
20/04/2015 15:32
ned data
Comparison data
Carryover
Restore
Target
Centralized controller
PI Controller
Centralized controller
Exp1
Mitsubishi
Clear

5. Clear the comparison data of PI controller.
If a PI controller is connected to the replaced AE-50 or EW-50 connected to the AE-200, carry out the procedure below.
Touch [Maintenance] > [Apportioned data] > [Comparison data] and select [PI Controller] as the “Target”.
Select the AE-50 or EW-50 where the PI controller is connected to as the “Centralized controller”.
(With each touch, the display changes in the following sequence: [Exp1]→[Exp2]→[Exp3]→[Exp4].)
Select the address of the connected PI controller as the “PI Controller”.
After the settings are completed, touch [Clear].


Ventil. Settings
User Info
Mainte-nance
20/04/2015 15:32
ned data
Comparison data
Carryover
Restore
Target
Centralized controller
PI Controller
Centralized controller
Exp1
Mitsubishi
PI Controller
Address50
Clear

- Also carry out this procedure if using an AE-50 or EW-50 built-in Pulse Input (PI).
For built-in Pulse Input (PI), select [PI].
- This procedure is not required for an AE-50 or EW-50 with PI controller not connected.

9-5. Replacing the PI controller

If the PI controller has been replaced, clear the comparison data.

Carry out the procedure below for the PI controller to be replaced.

Select [PI Controller] as the “Target”.

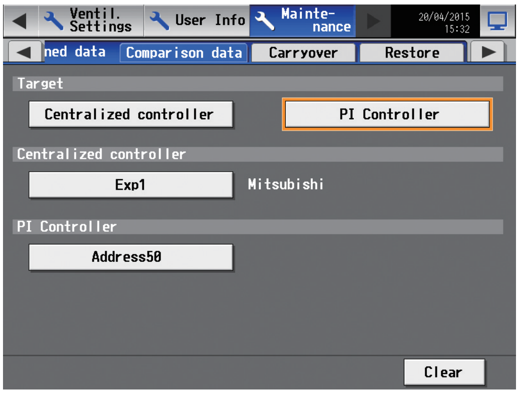
Select the AE-50 or EW-50 the PI controller is connected to as the “Centralized controller”.

(With each touch, the display changes in the following sequence: [Exp1]→[Exp2]→[Exp3]→[Exp4].)

Select the address of the connected PI controller as the “PI Controller”.

If you inadvertently select the PI controller which has not been replaced, the unapportioned pulse increment will be discarded.

After the settings are completed, touch [Clear].


Ventil. Settings
User Info
Mainte- nance
20/04/2015 15:32
ned data
Comparison data
Carryover
Restore
Clear

Target
Centralized controller
PI Controller

Centralized controller
Exp1 Mitsubishi

PI Controller
Address50

9-6. Other Tasks

(1) Data check before charge calculation

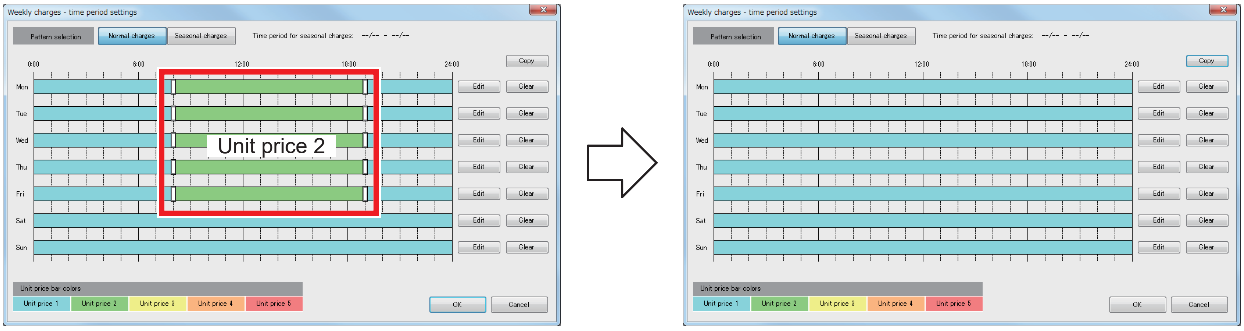
If you want to recalculate data for which charge calculation has been carried out in the past, do the recalculation on the Charge Calculation Tool using the pre-calculation data shown below.

- Storage location
  C:\Users\(user name)\Documents\CCTool\Log\“Date printed”
- File name
  ① Energy management block data
  M_01_App_IC_“Date/time printed”_“3-digit number”.csv
  ② Metering device data
  M_01_App_MC_“Date/time printed”_“3-digit number”.csv

(2) Clearing carried-over data

If even one unit price setting has been deleted on the Initial Setting Tool, clear the carried-over data in the apportioned data.

This procedure is required when unit price 2 has been deleted, etc.

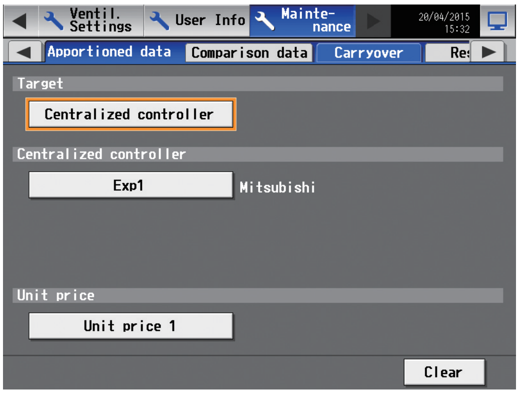

Weekly charges - time period settings
Pattern selection
Normal charges
Seasonal charges
Time period for seasonal charges: --/-- - --/--
Copy
0:00
6:00
12:00
18:00
24:00
Mon
Tue
Wed
Thu
Fri
Sat
Sun
Edit
Clear
Unit price 2
Unit price bar colors
Unit price 1
Unit price 2
Unit price 3
Unit price 4
Unit price 5
OK
Cancel

If the carried-over data has not being cleared, an error code “0095” may result.

- Clear the carried-over data.
  On the AE-200’s LCD, select [Maintenance] > [Apportioned data] > [Carryover] and then select [Centralized controller] as the “Target”.
  Select the connected AE-50 or EW-50 as the “Centralized controller”.
  (With each touch, the display changes in the following sequence: [Exp1]→[Exp2]→[Exp3]→[Exp4].)
  Touch “Unit price” and then select from unit price 1 to 5.
  After the settings are completed, touch [Clear].

Note

- If the deleted charge time period applies to an AE-50/EW-50 connected across multiple systems, carry out this procedure on all the systems.
  If you inadvertently select [Clear] for the unit price that is currently in use, the carried-over increment will be deleted.


Ventil. Settings
User Info
Mainte-nance
20/04/2015 15:32
Apportioned data
Comparison data
Carryover
Re
Clear

Target
Centralized controller

Centralized controller
Exp1 Mitsubishi

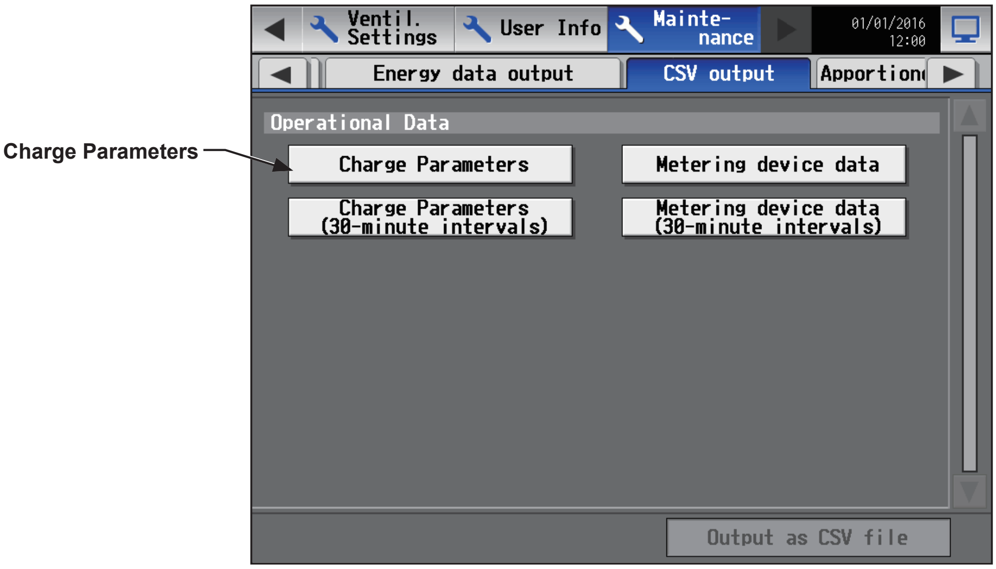
Unit price
Unit price 1

(3) If there is a unit with “0” amount of operating electric energy

Check this using the AE-200 charge parameters (CSV file).

Procedures

1. Connect a USB memory to the AE-200.
2. Open the [Maintenance] > [CSV output] screen and, with [Charge Parameters] selected, touch [Output as CSV file].
3. Open the CSV data.


Charge Parameters
Ventil. Settings
User Info
Mainte- nance
01/01/2016 12:00
Energy data output
CSV output
Apportion
Operational Data
Charge Parameters
Metering device data
Charge Parameters (30-minute intervals)
Metering device data (30-minute intervals)
Output as CSV file

4. Check the numeric value for the mode selected in “Outdoor unit electric energy consumption” mode in [Billing Function Settings] > [Billing Function] on the Initial Setting Tool.
5. If the number is not “0”, the setting may be incorrect.
   If the number is “0”, do the trial run of the air conditioning unit (cooling or heating) and check that the amount of power usage has increased. If the amount does not increase, the setting may be incorrect.

* Refer to the AE-200 Instruction Book –Detailed operations– for detailed information on the charge parameters.

(4) If there is a unit with “0” amount of standby electric energy

Procedures

1. Check the system’s billing function settings. If [Not apportion] is set for standby electric energy, then the “0” is not a problem.
2. On the Initial Setting Tool, select [Billing Function Settings] > [Billing Function] to check the settings for “Outdoor unit standby electric energy” mode and “Indoor unit standby electric energy” mode. If [Not apportion] is set, the value will be “0”.
3. On the Initial Setting Tool, select [Billing Function Settings] > [Outdoor Unit] or [Indoor Unit] to check that there is a numeric value entered in the standby electric energy field.

* If you want to change the settings, give careful thought to factors such as the operation method before proceeding.

Appendix 1. Using the AE-200 Charge Calculation Support Tool

This section describes how to use “AE-200ChargeCalc.xlsm” (an Excel file), which supports calculation of the air conditioning charges for each energy management block based on a CSV file of the air conditioning charge ratio of the electric energy acquisition (no metering device) system output by the AE-200 Charge Calculation Tool.
This tool allows easy calculation of air conditioning charges for each energy management block, data development in the Bill form, and changing of the Bill form.

Note

- “AE-200ChargeCalc.xlsm” is included in Charge Calculation Tool Ver. 1.10 or later.
  When the Charge Calculation Tool is installed, “AE-200ChargeCalc.xlsm” is also installed in the following folder.
  “[Folder in which the Charge Calculation Tool is installed]\Tool”
  (Default installation: “C:\Program Files\MITSUBISHI ELECTRIC CORPORATION\AE-200 Charge Calculation Tool\Tool”)

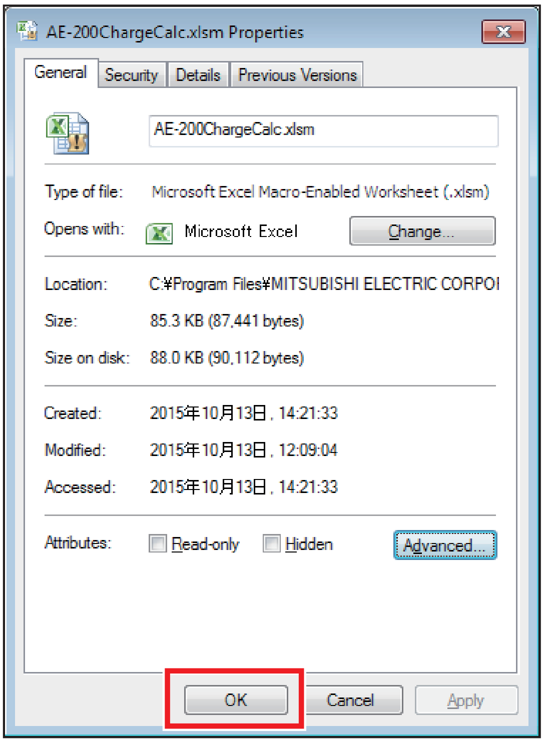
[1] Preparation

Prepare to use “AE-200ChargeCalc.xlsm”.

Preparation content	Remarks
Excel 2013/2016/2019	Install on the PC to be used and prepare for accessible status. Set delimiters ((,) Comma/(;) Semicolon), and decimal marker ((.) Dot/(,) Comma) for CSV files to be imported.
“AE-200ChargeCalc.xlsm” of AE-200 Charge Calculation Support Tool	
CSV files for air conditioning charge ratio output from AE-200 Charge Calculation Tool	Prepare files used to calculate the billing period.
Outdoor unit electric energy (for the billing period)	It is necessary to read the power meter for the billing period.
Indoor unit electric energy (for the billing period)	

Procedures

1. Open the properties for “AE-200ChargeCalc.xlsm” and check that the Read-only check box under Attributes is deselected.
   If the Read-only check box is selected, deselect it and then click [OK].



AE-200ChargeCalc.xlsm Properties

AE-200ChargeCalc.xlsm

Type of file: Microsoft Excel Macro-Enabled Worksheet (.xlsm)

Opens with: Microsoft Excel

Location: C:¥Program Files¥MITSUBISHI ELECTRIC CORPOI

Size: 85.3 KB (87,441 bytes)

Size on disk: 88.0 KB (90,112 bytes)

Created: 2015年10月13日, 14:21:33

Modified: 2015年10月13日, 12:09:04

Accessed: 2015年10月13日, 14:21:33

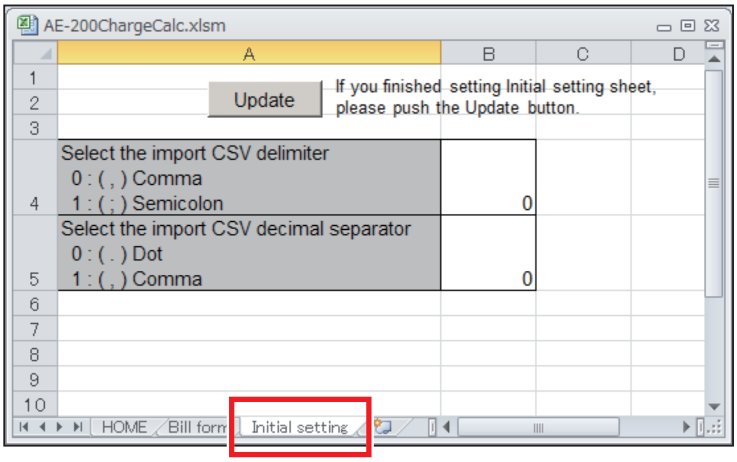
Attributes: ☐ Read-only ☐ Hidden

2. Open the “Initial setting” sheet of “AE-200ChargeCalc.xlsm” and set delimiters ((,) Comma/ (;) Semicolon), and decimal marker ((.) Dot/(,) Comma) for CSV files to be imported.
   Make sure to make this setting is the same as the CSV output format of AE-200 Charge Calculation Tool. (Refer to section 4-1-2 “Charge Calculation Tool settings” (5).)

   Select the import CSV delimiter
   In the case of (,) Comma, 0
   In the case of (;) Semicolon, 1

   Select the import CSV decimal separator
   In the case of (.) Dot, 0
   In the case of (,) Comma, 1

   After configuring settings, click [Update] to complete the process.



AE-200ChargeCalc.xlsm

Update

If you finished setting Initial setting sheet, please push the Update button.

A	B
Select the import CSV delimiter 0 : (,) Comma 1 : (;) Semicolon	0
Select the import CSV decimal separator 0 : (.) Dot 1 : (,) Comma	0

Note

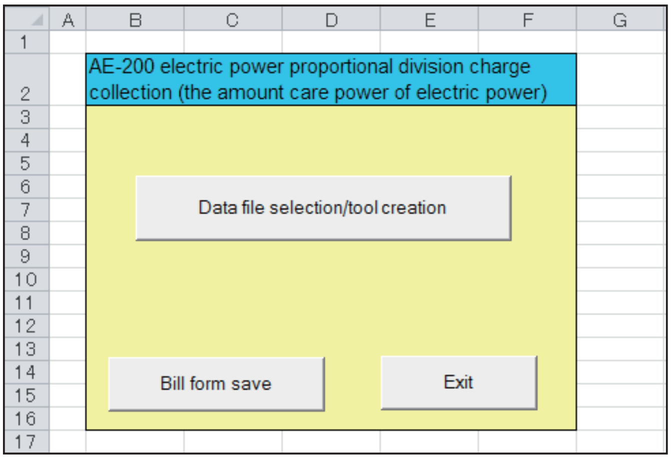
- “AE-200ChargeCalc.xlsm” uses macros. If a message is displayed saying that macros cannot be used, change the macro security level so that macros become available.

[2] Calculating the air conditioning charges

The air conditioning charge is calculated based on the CSV file of the air conditioning charge ratio output by the AE-200 Charge Calculation Tool and the electric energy calculated by the electricity meter.

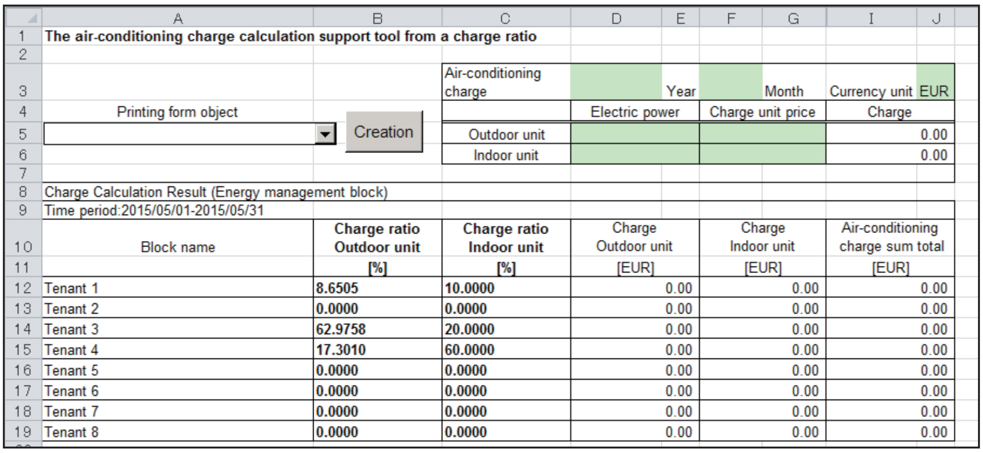
Procedures

1. Start “AE-200ChargeCalc.xlsm”.



AE-200 electric power proportional division charge collection (the amount care power of electric power)

2. Click [Data file selection/tool creation] to select and open the CSV file of the air conditioning charge ratio. “AE-200ChargeCalc.xlsm” closes automatically and an Excel screen titled “The air-conditioning charge calculation support tool from a charge ratio” opens under a different file name.



The air-conditioning charge calculation support tool from a charge ratio

Air-conditioning charge	Year	Month	Currency unit EUR
	Electric power	Charge unit price	Charge
Outdoor unit			0.00
Indoor unit			0.00

Printing form object

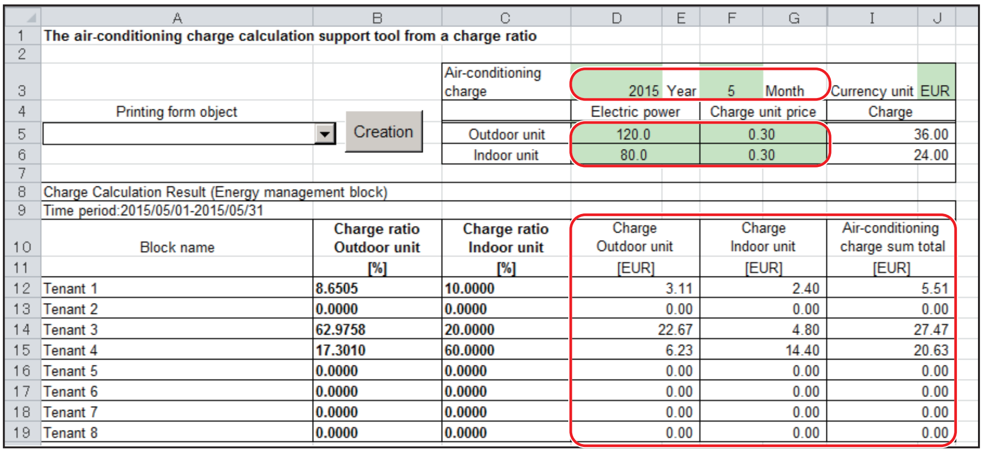
Charge Calculation Result (Energy management block)

Time period:2015/05/01-2015/05/31

Block name	**Charge ratio Outdoor unit [%]**	**Charge ratio Indoor unit [%]**	Charge Outdoor unit [EUR]	Charge Indoor unit [EUR]	Air-conditioning charge sum total [EUR]
Tenant 1	**8.6505**	**10.0000**	0.00	0.00	0.00
Tenant 2	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 3	**62.9758**	**20.0000**	0.00	0.00	0.00
Tenant 4	**17.3010**	**60.0000**	0.00	0.00	0.00
Tenant 5	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 6	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 7	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 8	**0.0000**	**0.0000**	0.00	0.00	0.00

3. Enter necessary data items.
   Enter the following data into the yellow-green cells.
   - Billing year and month
   - Outdoor unit electric energy (for the billing period)
   - Indoor unit electric energy (for the billing period)
   - Power unit price (per 1 kWh)

When the data is entered, the total air conditioning charges (electricity use charges) for each energy management block is displayed automatically.



The air-conditioning charge calculation support tool from a charge ratio

Air-conditioning charge	2015 Year	5 Month	Currency unit EUR
	Electric power	Charge unit price	Charge
Outdoor unit	120.0	0.30	36.00
Indoor unit	80.0	0.30	24.00

Printing form object

Charge Calculation Result (Energy management block)

Time period:2015/05/01-2015/05/31

Block name	**Charge ratio Outdoor unit [%]**	**Charge ratio Indoor unit [%]**	Charge Outdoor unit [EUR]	Charge Indoor unit [EUR]	Air-conditioning charge sum total [EUR]
Tenant 1	**8.6505**	**10.0000**	3.11	2.40	5.51
Tenant 2	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 3	**62.9758**	**20.0000**	22.67	4.80	27.47
Tenant 4	**17.3010**	**60.0000**	6.23	14.40	20.63
Tenant 5	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 6	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 7	**0.0000**	**0.0000**	0.00	0.00	0.00
Tenant 8	**0.0000**	**0.0000**	0.00	0.00	0.00

Note

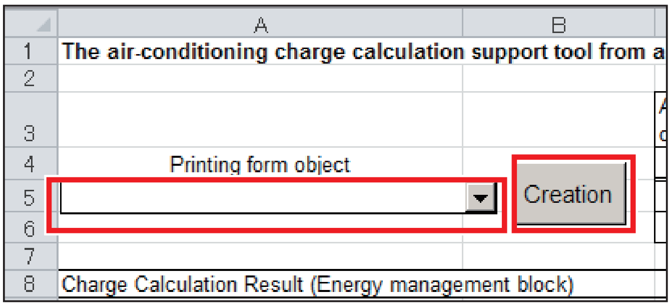
- It is necessary to read the power meter beforehand.

[3] Developing data into the billing form

To create bills for tenants, use the Excel screen of “The air-conditioning charge calculation support tool from a charge ratio” to develop data for the Bill form.

Procedures

1. Select an energy management block and click the [Creation] button.



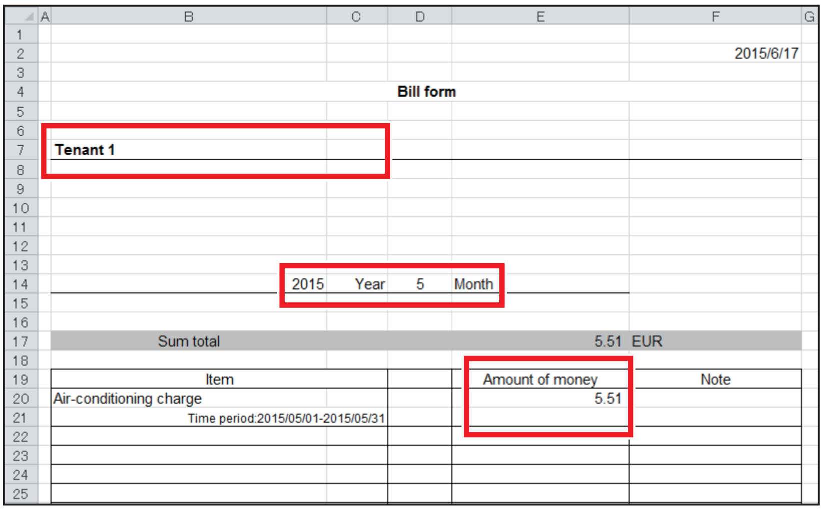
The air-conditioning charge calculation support tool from a

Printing form object

Charge Calculation Result (Energy management block)

When the [Creation] button is clicked, the Bill form for printing opens in a new Book and the following items are reflected.

- Billing year and month
- Energy management block name (tenant name)
- Calculation period
- Total air conditioning charges (electricity use charges)



2015/6/17

Bill form

Tenant 1

2015 Year 5 Month

Sum total 5.51 EUR

Item	Amount of money	Note
Air-conditioning charge	5.51	
Time period:2015/05/01-2015/05/31		

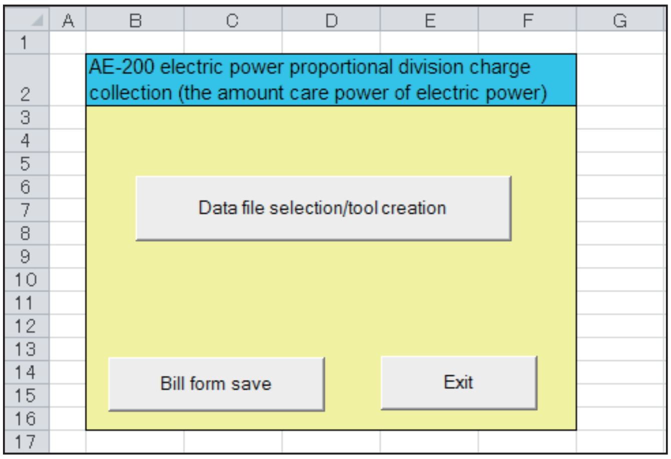
2. Enter necessary data items in the Bill form.
   As needed, it is possible to additionally enter items other than air conditioning charges, such as water and gas charges.
   When the bill is completed, print it out and use it.

[4] Changing the Bill form

It is possible to change the format of the Bill form.

Procedures

1. Start the “AE-200ChargeCalc.xlsm”.

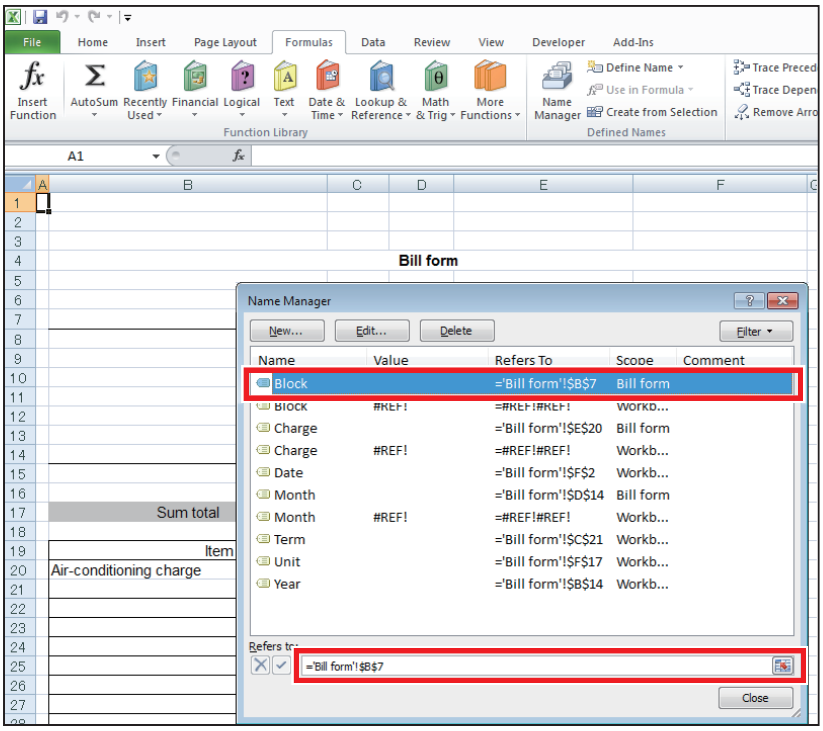


AE-200 electric power proportional division charge collection (the amount care power of electric power)

Data file selection/tool creation
Bill form save
Exit

2. Select the Bill form sheet.
3. Change the Bill form to the form you want to use.
   After changing the form, check the cell position to which the energy management block name, billing year and month, and total air conditioning charges will be output.
4. From the Excel menu, click [Formulas]-[Name Manager].
   From the following items, select cell items to be output.

• “Block”	(Energy management block name)
• “Charge”	(Total air conditioning charges)
• “Date”	(Billing issuance date)
• “Month”	(Billing month)
• “Term”	(Billing period)
• “Year”	(Billing year)

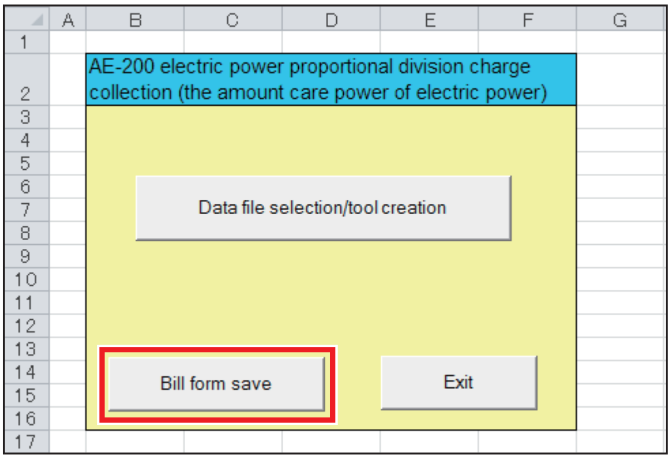


File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Add-Ins
Insert Function
AutoSum
Recently Used
Financial
Logical
Text
Date & Time
Lookup & Reference
Math & Trig
More Functions
Function Library
Name Manager
Define Name
Use in Formula
Create from Selection
Defined Names
Trace Preced
Trace Depen
Remove Arro
A1
Bill form
Sum total
Item
Air-conditioning charge
Name Manager
New...
Edit...
Delete
Filter
Close

Name	Value	Refers To	Scope	Comment
Block		='Bill form'!$B$7	Bill form	
Block	#REF!	=#REF!#REF!	Workb...	
Charge		='Bill form'!$E$20	Bill form	
Charge	#REF!	=#REF!#REF!	Workb...	
Date		='Bill form'!$F$2	Workb...	
Month		='Bill form'!$D$14	Bill form	
Month	#REF!	=#REF!#REF!	Workb...	
Term		='Bill form'!$C$21	Workb...	
Unit		='Bill form'!$F$17	Workb...	
Year		='Bill form'!$B$14	Workb...	

Refers to: ='Bill form'!$B$7

5. Select the reference range field and then select output cells.
   When output cells are selected, the cells are indicated by a dotted line and are displayed in the reference range field.
6. After changing output cells by repeating 4 and 5, click the [Close] button.
7. Select the “HOME” sheet.
8. Click [Bill form save] to save the bill.



AE-200 electric power proportional division charge collection (the amount care power of electric power)

A
B
C
D
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G
1
2
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4
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6
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10
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16
17
Data file selection/tool creation
Bill form save
Exit

Note

- If “AE-200ChargeCalc.xlsm” is closed without first clicking [Bill form save], the settings are not saved. Make sure to click [Bill form save].

Appendix 2. Added functions

The table below summarizes the newly added functions of the centralized controller.

Version	Added function	Descriptions	Reference
Ver. 7.5	Models that support the apportioned electricity billing function	The HVRF series was added. On the HVRF series units, electric energy consumption of the outdoor units is apportioned by the thermo-ON time, even if apportionment by capacity save amount is selected.	Section 2-5 “Models of units that support the apportioned electricity billing function”
Ver. 7.85	Models that support the apportioned electricity billing function	Pump unit was added. On the HVRF series units, electric energy consumption of the outdoor units is apportioned by the capacity save amount.	Section 2-5 “Models of units that support the apportioned electricity billing function”
Ver. 7.98	Changes the default maintenance user / building manager login passwords.	The default maintenance user / building manager login passwords for AE-200A/AE-50A can be changed here.	Section 9-2 “Logging in to the Maintenance screen”
	Supports Windows® 11	Compatible with computers running on Windows® 11	Section 1-4 “PC requirements”

The table below summarizes the newly added functions of the Initial Setting Tool.

Version	Added function	Descriptions	Reference
Ver. 1.20	Check sheet for billing function trial run	Check items were added for BACnet® billing function.	Section 7 “Billing function trial run”
	Data verification	Data verification function was added to detect an error in the settings for billing-related items.	Section 8 “Data verification”
Ver. 1.80	Initial settings for pump units	Initial setting function for pump units was added.	Section 6 “Initial settings” Section 8 “Data verification”
Ver. 2.00	Data transmission functions (“Send all settings” and “Only send the changes”)	Send all settings: All settings are sent to the controllers whose settings were changed. Only send the changes: Only the changed settings are sent to the controllers whose settings were changed.	Section 6-4-3 [5] “Send”
Ver. 2.01	Supports Windows® 11	Compatible with computers running on Windows® 11	Section 1-4 “PC requirements”
	Supports .NET Framework 4.8	Compatible with .NET Framework 4.8	Section 1-4 “PC requirements”

The table below summarizes the newly added functions of the Charge Calculation Tool.

Version	Added function	Descriptions	Reference
Ver. 1.20	E-Mail	E-mail function was added to send the apportioned power data via e-mail every day.	Section 4-1-2 (7) “E-Mail settings”
Ver. 1.21	Supports Windows® 11	Compatible with computers running on Windows® 11	Section 1-4 “PC requirements”
	Supports .NET Framework 4.8	Compatible with .NET Framework 4.8	Section 1-4 “PC requirements”

This product is designed and intended for use in the residential,
commercial and light-industrial environment.

The product at hand is based on the following EU regulations:

- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU

Please be sure to put the contact address/telephone number
on this manual before handing it to the customer.

MITSUBISHI ELECTRIC CORPORATION

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MANUFACTURER: MITSUBISHI ELECTRIC CORPORATION Air-conditioning & Refrigeration Systems Works
5-66, Tebira 6 Chome, Wakayama-city, 640-8686, Japan